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ABSTRACT

The purpose of this project was to demonstrate that computer-based training (CBT) sessions, produced as HyperCard stacks (files), are an efficient and effective component for staff training in libraries. The purpose was successfully met in the 15-month period of development, evaluation, and implementation, and the University of Tennessee (UT) Knoxville Libraries have made these CBT sessions a regular part of training for all new staff. A team of nine librarians and staff used HyperCard software to develop the training materials. Because HyperCard programming (or scripting) rests in English-language phrases and is intuitive in formulation, specialized applications such as CBT for library staff training are realizable. The technology of HyperCard scripting is well suited to the branching, drill, and testing common to CBT; it can also use sounds, picture, animation, and graphics, to make training sessions interesting, and to engage multiple senses in the active transfer of information. The developers used Macintosh computers, printers, a scanner, and various software resources. Macintosh computers were then used for evaluation and testing followed by full implementation of the self-directed basic training program. This report includes general information on the project; a narrative report (background, purpose, goals, budget, expenditures, dissemination and impact of project, and project evaluation and continuation); a financial report (expenditures, itemization of matching funds, inventory of CBT equipment); five references; and 12 appendices. Appended materials include a needs assessment form, survey and evaluation forms and questionnaires, a brochure on the training program, and documentation for CBT stacks and scripts. (BBM)

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Final Performance Report
for
College Library Technology and Cooperation Grant Program
Higher Education Act, Title II-D CFDA No. 84.197
Research and Demonstration Projects

Computer-based Training for Library Staff:

A Demonstration Project Using HyperCard

October 1, 1989 - December 31, 1990

University of Tennessee, Knoxville Libraries

Pauline S. Bayne and Joe C. Rader
Project Directors

March 30, 1991

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Computer-based Training for Library Staff:
A Demonstration Project Using HyperCard

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I. General Information

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II. Narrative Report

Background

Today's research libraries offer sophisticated, high-tech modes of access to information. Their information resources come in a variety of formats located in large complex buildings or in a plethora of separate locations; they call on interlibrary loan, document delivery, and remote information sources to supply information needs. Such complex information services, whether traditional or new, require capable and highly trained staffs to mediate between users and the information systems they need.

While librarians welcome the exciting challenges and opportunities of our information age, they are faced with the problem of trying to do more and to do it better with little increase in financial support. Especially lacking are increases in funding for staff and staff training. The national need for attention to staff training in academic libraries is intensified, typically, by a high turnover rate among employees, frequent use of a large number of part-time (student) employees to offer basic services, and the increasing use of lower level staff in positions once reserved for professional staff. James Neal, Director of Libraries at Indiana University, describes the increasing involvement of student workers in service programs: "Their skills and experience have become critical to the operation of the library and their expanding role involves a greater investment in training." (Neal 1984, 62.) The imperative is to find ways to use existing resources, including human resources, to the fullest.

How can support and student staff members be trained efficiently, more broadly, and to a competency-based level in order to improve services in academic libraries (and reduce per-employee training costs, if possible)? Academic libraries need to develop systematic training programs for new employees and programs for the further development of current employees. The need to invest in training programs has been recognized in the corporate sector. A report by the Carnegie Foundation (Eurich 1985) indicated that industrial corporations spend more than $40 billion a year on programs that include training in basic skills such as reading as well as programs for the development of managers and executives. Most surveys indicate that over 90% of private corporations have some type of systematic training (Goldstein 1986).

Training does occur in academic libraries, but it is rarely systematic. Typically, training occurs within departments on a one-to-one and job-specific basis. Such activities will always be important, but with only this component there are certainly variations in quality. This mode of staff training is time-intensive, expensive, and usually too specific to deal with general library issues such as preservation, positive service attitudes, or appropriate patron referral patterns. There may be an orientation session for new staff, but one session is certainly insufficient to address the complexities of library service today. A need for fundamental instruction of employees is common among many libraries. Can it be met, in part, by creating an initial set of training sessions having content that is generally rather than uniquely applicable?

The University of Tennessee, Knoxville Libraries' demonstration project addressed this need through the production of computer-based training materials. It offers a strategy that can be applied systematically to the library training dilemma. Computer-based training (CBT) or computer-assisted instruction (CAI) is a proven educational method beginning to be used today for many subjects and all levels of student abilities. CBT sessions have not been used extensively for training staff in libraries, usually because the market has not been large enough for specific commercial products and because not enough librarians have learned computer programming to create them. The combination of increasing numbers of microcomputers in libraries and a new software program, HyperCard[1], provided an opportunity in 1989-1990 to demonstrate the effectiveness and efficiencies of computer-based training within a library staff training program at the University of Tennessee, Knoxville Libraries.

Purpose

The purpose of this project was to demonstrate that computer-based training sessions, produced as HyperCard stacks (files), are an efficient and effective component for staff training in libraries. The purpose was successfully met in the fifteen-month period of development, evaluation, and implementation. Starting in January, 1991 an on-going implementation program at the UT, Knoxville Libraries has made these CBT sessions a regular part of training for all new staff. Dissemination of the training materials will demonstrate their effectiveness in other library settings as they are tailored and used in the future.

A team of nine librarians and staff used HyperCard software to develop the training materials. Because HyperCard programming (or scripting) rests in English-language phrases and is intuitive in formulation, specialized applications such as CBT for library staff training are realizable. The technology of HyperCard scripting is well suited to the branching, drill, and testing common to CBT; it also can employ sounds, pictures, animation, and graphics not only to make a learning session interesting but to engage multiple senses in the active transfer of information.

The developers used Macintosh computers, printers, a scanner, and various software resources. Macintosh computers equipped solely with HyperCard were then used for evaluation and testing followed by full implementation of the self-directed basic training program.

[1]HyperCard is a hypertext software program first released in October 1987; it is available from Apple Computer, Inc.

Goals

1. Conduct a local needs assessment and gather national advice before choosing computer-based training topics. Completed in January 1990.

Prior to the official start of the project, in September 1989, project planners conducted a survey of training needs within the University of Tennessee, Knoxville Libraries. This questionnaire (Appendix A) included four attitudinal questions, a list of eleven potential training topics to be ranked by the respondent, and an opportunity to suggest other topics to be considered for this training method. The questionnaire was distributed to all library administrators (4), department heads (13), faculty (25), and to selected library supervisors (22). From the total of 64 questionnaires distributed, 51 were completed, giving a response rate of 79.7%.

The attitudinal questions revealed that 82% of those responding had observed or participated in computer-based instruction or training; 65% had seen HyperCard demonstrated; 100% believed that CBT could be effective for some staff training; and 96% would support CBT for all new staff. The overwhelming approval for this approach to training among the UTK Libraries faculty and staff was reassuring.

Results of the survey are given here in priority order:

1. Service attitudes and behaviors
2. OLIS [2] Online Catalog
3. Orientation to the UTK Libraries organization
4. Circulation policies
5. OLIS Circulation module
6. Access to journal literature
7. Preservation of library materials
8. Introduction to reference work
9. Using E-mail and All-in-1
10. Technical Services--the bibliographic support system
11. OLIS Reserve module

The project team considered the local needs assessment when preparing a survey instrument to be sent to members of the Association of Research Libraries. The survey (Appendix B), designed to gather national advice on topics suitable for CBT of library staff, presented a brief explanation of the demonstration project, explained that the training materials would be made available to other libraries when completed, and asked for priority ranking of nine possible staff training topics.

[2] OLIS is the Online Library Information System in use at the University of Tennessee, Knoxville; it uses Geac, Inc. software and includes subsystems for acquisitions, cataloging, circulation, and an online public access catalog.

By January, 1990, 85 of the 119 surveys had been returned, giving a response rate of 71%. The desirability of topics, as gathered from ARL directors or personnel officers, is as follows:

1. Service attitudes and behaviors
2. Orientation to the academic library
3. Access to journal literature
4. Integrated online systems for libraries
5. Introduction to reference work
6. Resource sharing
7. Acquiring and processing library materials
8. Preservation of library materials
9. Introduction to government documents.

Using the results of both surveys, the project team determined topics for the six training sessions to be developed:

- *Orientation*
  Contains much local information but serves as a model for computer-based orientation to an academic library. It was prepared in two versions, one for non-exempt staff and the other for student employees.
- *Resource Sharing*
  Covers interlibrary loan and other aspects of resource sharing.
- *From Request to Shelf*
  Covers selection, acquisition, cataloging, and processing of collection materials.
- *Access to Periodicals*
  Includes the importance of periocial literature, access through indexes, location and format problems.
- *Computers in Libraries*
  Briefly introduces computer components and microcomputer applications; focuses on interactive computer systems for libraries.
- *Reference Services*
  Introduces reference materials and services including electronic sources, government documents, and bibliographic instruction.

Project directors had developed a prototype unit prior to funding of the project; it was revised to match the screen design and instructional patterns chosen for the other training materials. This unit, *Library of Congress Classification,* is part of the total program of instructional materials now available.

Several worthy topics were rejected by the project team for a number of reasons. Topic 1, "Service attitudes and behaviors," was highly sought both locally and nationally. The team felt that it would be prohibitively difficult to develop both in terms of content and production; also, it might be more suitable to interactive video technology because specific cases of personal interaction could

be presented. However, instruction on appropriate service attitudes has been integrated with other information throughout the CBT units. The preservation topic was also highly desired. It is one that the UTK Libraries plans to pursue after the project period.

2. Prepare a core of librarians to produce training materials using HyperCard.
Completed in July 1990.

Project staffing

Team members (seven co-authors and the library administrator assigned to the project) were granted released time as part of the Libraries' cost-sharing. Released time for the project directors was arranged by hiring temporary professionals and making internal reassignments. Some student assistant hours were funded to facilitate the various internal reassignments of staff. The project co-directors spent more than the half-time funded for each; so this extra staff time was also part of the Libraries' cost sharing. (See Part III, Financial Report.)

Team training

During the first quarter, team members worked independently on HyperCard training, using books and online tutorial materials. A two-day instructional workshop was given, February 1-2, 1990, by two trainers from Apple Computers, Inc. The workshop provided an introduction to HyperCard and its scripting language, HyperTalk. Apple Computers, Inc. provided this service at no cost.

Dr. Harold Stoker of the University of Tennessee, Knoxville, College of Education conducted a half-day workshop, "Design of Instruction," on March 2, 1990. The instruction centered on an instructional model (Dick and Carey, 1984) which gives guidance in establishing instructional objectives, defining entry behaviors, designing appropriate testing mechanisms, etc. These concepts were important in guiding team members as they planned and developed topical units.

On April 17, 1990, Professor Susan Metros of the University of Tennessee, Knoxville, Department of Art presented a lecture demonstration on the basics of graphic design as they relate to creating HyperCard screens. This presentation was the final formal learning experience for the development team. It provided instruction and stimulation for team members leading to the design of a consistent user interface among all of the training units: navigational methods and screen appearance experienced initially by trainees appear the same in subsequent training sessions.

Developers relied on a team approach throughout the development phase. The team met monthly to share ideas and to critique the work of co-authors. Considering everything from choice of fonts to glossary terms to specific instructional text resulted in "pre-tested" materials. Even before evaluators were asked to examine the units, seven individuals (team members) had the opportunity to suggest improvements.

3. Provide sufficient hardware for simultaneous development of the units and for implementation of the training program throughout the organization. Completed in February 1991.

Initially seven Macintosh computers, two printers, and an AppleScanner were purchased for development purposes. Also, this quantity was considered the minimum number of machines needed to implement the program in the UTK Libraries. Later, project directors purchased additional hardware for implementation purposes (six Macintosh computers, three printers, and an LED screen-projection device).

Software purchases were minimal because HyperCard came with the computers. Some clip art, MacRecorder (hardware and software for recording and digitizing sound), and StuffIt Deluxe (data compression software) were purchased. Training sessions were developed using HyperCard 1.2.2. Now that HyperCard 2.0 is available, the materials will be converted to that version. However, distribution copies will remain in HyperCard 1.2.2 for broadest utility to other libraries.

Towards the end of the project and with an approved budget change, project directors purchased additional equipment to better meet implementation needs. In January, 1991 the equipment for full implementation included six Macintosh computers in a central training room (Mac SE and Mac Classic) and three Mac Classics in branch libraries, all for direct staff training use. Because the Library Personnel Office has responsibility for directing the program, that office has one Macintsoh SE/30, printer, and the LED projection device. Other computers will be used for further development of training units either for library-wide use or for departmental training and to allow other library staff members to learn to use HyperCard.

4. Produce six computer-based training sessions during the project period.
Completed in December 1990.

The team was organized to pair co-authors with more experienced project directors for each topic to be developed:

Pauline S. Bayne with:

- Jill Keally & Martha Rudolph - *Orientation*
- Agnes Grady - *From Request to Shelf*
- Steve R. Thomas - *Computers in Libraries*

Joe C. Rader with:

- William Britten - *Resource Sharing*
- Alan Wallace - *Reference Services*
- Judith D. Webster - *Access to Periodicals.*

During the first quarter, team members conceptualized the instruction to be provided, developed metaphors and designed images that convey messages effectively, and began to develop a "text" for each session. The text was created in a HyperCard "planning stack," which like a storyboard included actual draft words of narration or instruction along with ideas for production, such as animation or special effects, and graphic or sound images that might be included.

Each "text" was distributed -- both in printed and HyperCard form -- to all members of the team for review and critique. The resulting group criticism aided co-authors in revising concepts and presentation ideas before beginning production of the units.

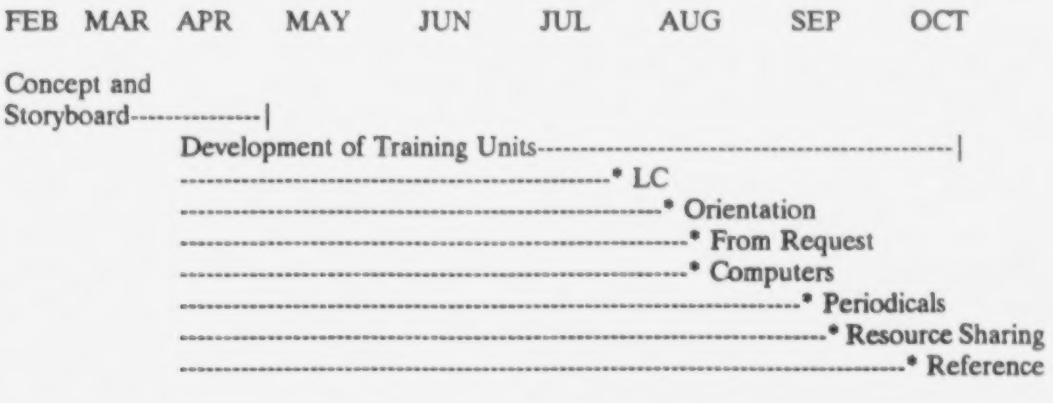
The team completed screen designs in April including a variety of basic instructional screens; menu, glossary, and help screens; and navigational devices which would be consistent throughout the training units. Content of the prototype session, *Library of Congress Classification*, was converted to the new screen designs. *New Horizons in Library Training* was chosen as the name for the series of computer-based training sessions. Samples of screen designs are given in Appendix C.

Although the goal for completion of initial unit development was set for July 15, actual completion of the six "new" units occurred between August 1 and October 1. Development activities require a great deal of time, and the creation of graphics is particularly time intensive. Having an experienced artist as a permanent member of the team would have helped to reduce development time.

Then from September through October, co-authors used evaluations and comments from a three-stage evaluation program to revise their units (discussed in detail below).

The project directors developed various stacks and mechanisms needed to bring the separate training units together into a coherent program. They developed "front end" stacks that include a title sequence, help stack, trainee registration mechanism, programming to gather use data and create data reports, and a program evaluation form that is administered on the Macintosh computers as the final activity for each trainee.

CBT Development Timeline: 1990



5. Evaluate effectiveness of the CBT sessions using trainee responses.
Completed in December 1990.

The evaluation plan was completed in June. Based on the Dick and Carey model for design of instruction, it consisted of three stages to be applied to each unit after initial development.

> The three types of formative evaluation are referred to as one-on-one evaluation, small-group evaluation, and field evaluation. Each type... provides the designer with a different type of information which can be used to improve the instructional module. (Dick, 1984, p.10)

Evaluation stages were originally planned for August and September. However, because development was delayed for some units, evaluation was spread out from August through December. Each session went through the evaluation stages sequentially with revision after each stage.

I. Evaluation Stage 1: One-on-one evaluation and expert review.

A. One-on-one evaluation involved one library employee as evaluator and one of the unit's developers as observer. The evaluator went through the training session, making comments while experiencing the instruction. The developer observed the interaction of evaluator and material and made notes. The purpose of this formative evaluation was to identify mechanical problems and content problems for revision and improvement.

Two or three evaluators reviewed each unit. Evaluators were chosen to represent various divisions and departments of the library, various types of positions, differing levels of computer experience, and other demographic factors.

B. Expert review required that each team member review carefully and comment on the content and presentation of material. A comment "button" on each "card" (screen of information) allowed the reviewer to exit from the training information, write a comment, and return to his or her place. All nine team members reviewed each unit. Co-authors then revised materials for their training session based on comments of team members and one-to-one evaluators.

II. Evaluation Stage 2: Small Group Review.

After revision, each unit was evaluated a second time. Because the intended audience for the training program is non-exempt staff and student assistants, thirteen non-exempt staff members served as evaluators. Originally, sixteen were choosen but three had to drop out of the evaluation program due to time constraints. Each reviewer received instructions on computer use and reviewing procedures for the first unit. Then he or she proceeded through the other units independently, completed an evaluation questionnaire for each unit, and completed a general, comparative questionnaire at the end of the final session. Two of these thirteen reviewers were asked to use the comment button mechanism to provide additional specific comments on a card-by-card basis for each unit. Revision of instructional content or presentation methods occurred again at the end of the second stage of evaluation.

One important issue to be settled at this evaluative stage was the appropriate length for a CBT unit. The team anticipated the maximum length to be 30 - 50 minutes. To test this assumption, evaluators were divided into two groups. Six individuals took each unit in a single session while seven others took the four longer units in two sittings. Because of evaluator responses at this stage, the four longer units were divided permanently into two parts. The normal duration range for finished units is now 15 - 45 minutes.

III. Evaluation Stage 3: Field Testing

In a field test, designers attempt to obtain a learning situation which closely resembles that intended for the instructional materials. All of the materials should be revised and ready; regular instructors rather than designers should conduct the field test (Dick, 1984, p.162) Therefore, the purpose of the CBT field test was to have new employees evaluate the intended training environment as much as to gain further review of instructional content. Training stations were set up as intended for actual implementation of the program (in a central training room). After learning how to introduce trainees to computer-based training, supervisors rather than developers administered the field test. The trainees were non-exempt staff and student assistants hired since July 1, 1990, or having less than one year's experience.

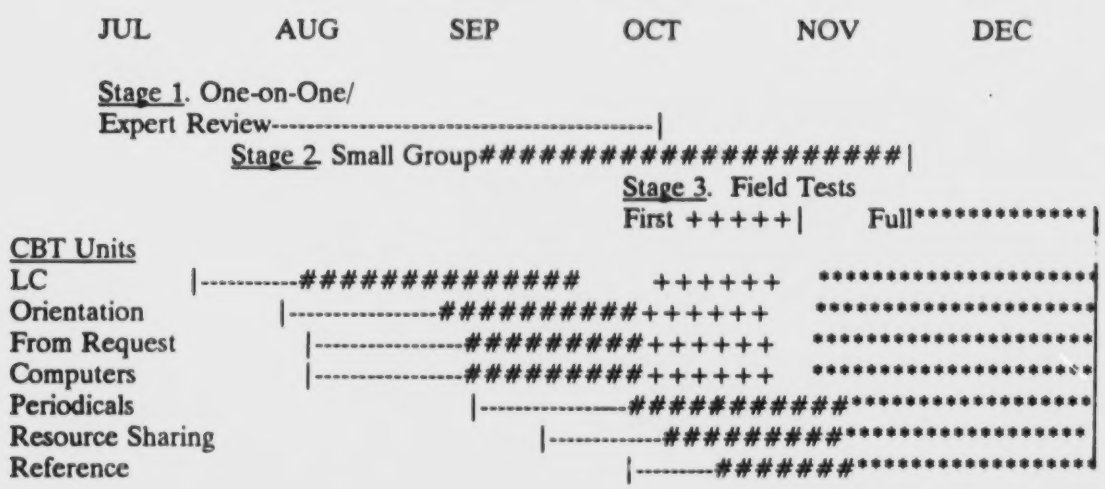
Because the training materials were completed at varying times, four units entered the field test stage in October. At this time, the project team considered two different methods of tracking trainee progress -- a menu approach and a user disk system. With the user disk system a trainee would receive a diskette on which registration information had been entered. The diskette and programming in the opening stack would determine which units had been completed, the desired order for a member of that library department, and would automatically direct the trainee to the next training session. This system did work, but it proved difficult to run two different tracking systems at the same time. Since no one wanted to manage a user disk system for the number of student assistants hired each year, the menu approach was adopted for all trainees.

The initial field test involved six supervisors and ten new employees (six non-exempt and four student employees). Conducted using only two computers in a temporary test site, the field test was halted for two reasons. First, it was too difficult administratively to run both evaluation stages two and three concurrently using so few computers. Second and more importantly, supervisors found there were few advantages to two different tracking systems for non-exempt and student employees. Project directors decided to adopt the menu system for all trainees.

A second, full field test of all training sessions was conducted from November 7 through December 19, 1990 in a central training room equipped with four Macintosh computers. Fifteen supervisors and twenty-two trainees from eleven different library departments participated. The trainees included ten new non-exempt employees and twelve new student assistants. In addition, eleven other current staff members participated as reviewers but not in a supervisory role.

Results of all evaluation stages are given in the section, "Project Evaluation." Appendices D and E provide copies of questionnaires administered to evaluators.

CBT Evaluation Timetable: 1990



6. Evaluate the project using interviews and questionnaires administered to trainees and their supervisors. Completed in March 1991.

Project directors used telephone interviews to collect user responses to the CBT program. A stratified sample was taken of the 76 individuals who completed the program by February 28, 1991. The 17 interviews represented a 22% sample and included 7 supervisors, 5 non-exempt trainees, and 5 student trainees. These interviews indicated a favorable response to the program overall.

Trainees and supervisors had little problem scheduling sessions or working independently after their introduction to the Macintosh and to the CBT program. Almost all were willing to spend the time on this mode of library basic training. No negative feedback was reported from supervisors and very few negative comments from employee trainees. Most staff interviewed felt that the CBT program will produce better staff performance. The majority of supervisors found the reporting mechanism satisfactory, felt that their should be additional library-wide CBT units, and possibly that department-specific units should be developed. Almost no one expected a change in departmental training due to this program. Developers interpreted this response as an indication that the CBT program is filling a gap not previously met in depth at the departmental level. Specific interview questionnaires are provided in Appendix F, and percentage results are summarized in the section, "Project Evaluation," page 34.

7. Prepare an implementation plan for regular use of the CBT sessions in training staff at the UT, Knoxville Libraries. Completed in January 1991.

Because integration of computer-based training into a total training structure is important for success in any setting, planning for implementation was begun in March. The two directors and personnel librarian formed a subgroup of the project team for this purpose.

The Libraries' administration accepted an initial implementation plan in June. The Project directors held presentation and discussion sessions with department heads and supervisors during the summer. In September, a survey of department heads collected information identifying all supervisors of full-time staff and student assistants, the desired order of training sessions for non-exempt staff, and the choice, order, and timing of sessions for student assistants.

The libraries provided and equipped a central CBT training room in early November. This facility was available November 7 - December 19 for the field test which tested the program's implementation methods and assumptions. Appendices G - H provide a comparison of implementation for non-exempt and student employees and samples of the CBT checklist.

Highlights of the Implementation Plan

A. Participation.

All new non-exempt and student staff participate but to different degrees. Non-exempt staff take all seven training sessions within the first six months of employment, with *Orientation* occurring during the first two weeks. Student assistants also take *Orientation* within two weeks of their employment start.

Department heads determined the order of training sessions for their non-exempt staff in September, 1990. That order will be followed by all new staff members as they are hired. For student assistants, department heads chose the specific training sessions to be taken, their order, and the timing of the sessions. Student assistants are not required to take all training sessions for two reasons, 1) they may leave employment after a few weeks or months and 2) some student employees are assigned tasks of limited scope.

B. Monitoring CBT training progress.

Checklists are used for both non-exempt and student staff members. These checklists provides a paper trail for scheduled sessions, indicate the desired sequence of sessions, and are returned to the Library Personnel Office when trainees complete the CBT program.

For all staff, a menu on the Macintosh allows the individual to choose the session indicated by his or her supervisor. The menu system also provides access to training materials for staff whose employment began before the implementation of CBT and for review by anyone at any time. An evaluation form, accessed from the menu, provides the opportunity for trainees to evaluate the entire program after they have completed it.

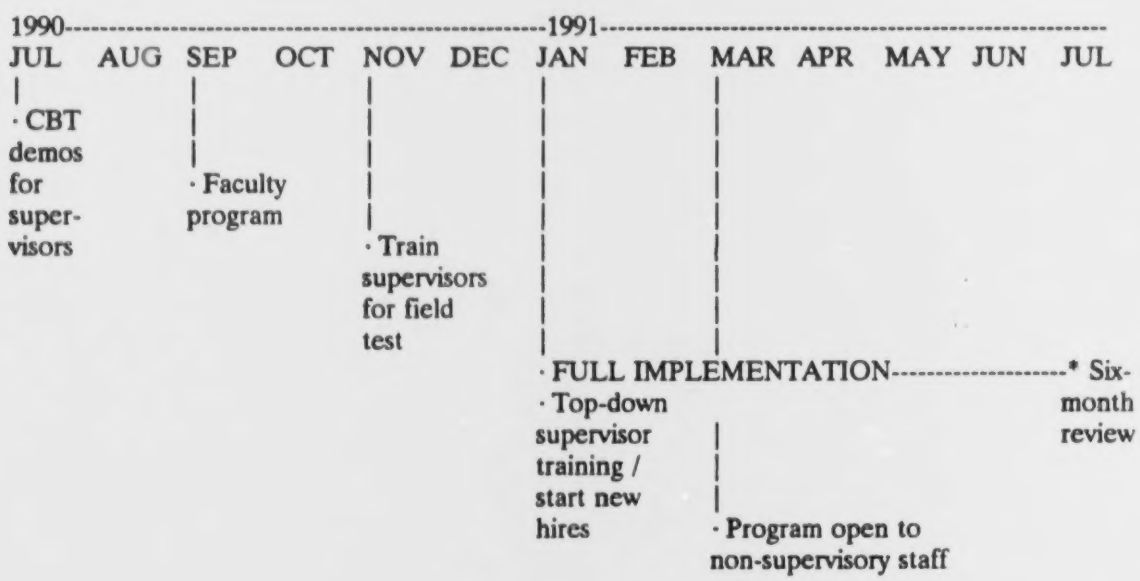
Programming within the HyperCard stacks collects data unobtrusively on all users of the system. The trainee registers by typing his/her name, department, and employee status. This information along with session name, start and stop times, test scores, missed questions, and comments from the trainee are recorded in a separate file called "TraineeData." This data is used by the Library Personnel Office to make sure that new employees begin the program within their first two weeks of employment. Weekly reports to supervisors allow them also to monitor the progress of their trainees. The collective data will be used to assess the program as a whole after the first six months of full implementation.

C. Training the Trainers.

Because the responsibility for implementation of the CBT program for individual new employees rests with their supervisors, full implementation had to begin with training for supervisors. January and February were targeted for completion of this phase of full implementation. Project directors chose a distributed, top-down method of training. From January 11 - 19, four team members conducted group sessions for department heads and supervisors in all departments. Then these supervisors trained other supervisors in their department and began viewing the training sessions on a recommended schedule of one session per week. The Library Personnel Office initiated CBT training for new personnel by sending the supervisor a training checklist as soon as that supervisor had completed two or more training units.

These one-hour introductory sessions included the same types of information as is given to each new trainee: 1) an introduction to the Macintosh computer using part one of the *Apple Tour of the Macintosh* or *Macintosh Basics*[3], 2) procedures for scheduling sessions and using the training room, 3) how to start and end each training session, 4) how to use the training checklist, and 5) how to report problems. With new trainees, however, the introduction takes only about thirty minutes because teaching methods need not be covered. See Appendix K for copies of implementation materials.

CBT Implementation Timetable: 1990-1991



[3]These introductory materials come on diskette upon purchase of a Macintosh computer. The first part of each introduces use of the mouse.

8. **Disseminate project results through articles and conference presentations; provide CBT stacks to other libraries.** Substantial activity was completed during the project period, but further papers and presentations are planned to continue.

Team members wrote various publicity and informational articles during the project period and gave presentations at library conferences. Dissemination efforts have a two-fold intent: 1) to publicize a method of improving library staff training in a systematic way, and 2) to let other libraries know of the availability of the stacks created for use anywhere. A complete list of these activities is given in the section, "Dissemination and Impact of Project."

A brochure (Appendix I) describing the CBT sessions and how to obtain them has been prepared for mailing to all ARL Libraries. It will also be used to answer inquiries about the on-going program. The CBT materials themselves are available in two ways: 1) in diskette form from the Apple Library Template Exchange and 2) by electronic transfer from The Internet.

Budget Changes

Project directors requested two budget changes during the project period. The first change, to move the contractual services line ($500) to salary and wages, was requested on February 7, 1990 and approved on April 19, 1990. It was needed because the instructors hired to lead two team training workshops were faculty at the University of Tennessee, Knoxville rather than outside the University. The second budget change requested permission to use unspent salary and benefits funds for equipment needed in the evaluation and implementation phases. This request was made on August 27, 1990 and approved on October 24, 1990. At the same time, a request for a no-cost extension of the project period (from September 30, 1990, to December 31, 1990) was approved.

Expenditures

	Federal			Cost Sharing	
	Original Budget	Changed Budget	Actual Costs	Original Budget	Actual Costs
Salary and Wages	$25,000	$20,700	$20,633	$21,909	$45,613
Fringe Benefits	6,580	4,600	2,165	6,135	12,772
Travel	0	0	0	0	0
Equipment	25,500	33,400	30,820	0	0
Supplies	1,000	1,000	685	0	0
Contractual Services	500	0	0	0	0
Other	0	0	0	0	0
Total Direct Costs	57,080	57,080	54,273	28,044	58,385
Total Indirect Costs	9,821	9,821	8,172	8,722	18,158
Total Project Costs	$66,901	$66,901	$62,445	$36,766	$76,543

Differences between Planned and Actual Expenditures.

For the Libraries' cost-sharing component, the greater expenditure was due to the three-month extension of the project period, thereby taking more time of all team members, and to the greater amount of time required of the project directors. The project directors handled administrative tasks, planning and implementation of all evaluative activities, preparation of the implementation plan, educational and promotional activities relating to acceptance of the implementation plan--all in addition to active participation as co-authors on three training topics each. The other team members averaged 12% in contributed time rather than the expected 10% for each of them.

In regard to the federal expenditures, all activities were carried out and all equipment items approved in the changed budget were purchased. However, the salary figure was lower than projected because some student assistant hours were not used. The benefits figure was much lower than projected because temporary staff and student employees are not eligible for benefits. The total benefits amount was even lower than projected in the changed budget. Finally, equipment items were purchased at less cost than originally projected.

Dissemination and Impact of Project

Dissemination of CBT units

HyperCard stacks (files) are transportable; anyone owning a Macintosh or Apple II computer will already own HyperCard software or can purchase it for only about $50.00. The availability of this computer hardware platform and software in libraries was a primary reason for its use as the authoring language for the CBT demonstration project.

Project directors intend for these training units to be distributed to other libraries where they may be modified for local use. Credits and acknowledgements on the title screen of each unit invite such use and provide distribution information. The instructional materials have been written "generically" for use in many libraries. With just a little HyperCard experience, librarians should be able to dissable access to local information or to replace it with their own. Instructions and hints also reside in the stack script of each unit's stacks to aid librarians in the use of this training program.

Two distribution methods are available for the training materials themselves: 1) diskettes and 2) electronic transfer. Libraries may order copies of the training sessions at $5.00 per diskette from the Apple Library Template Exchange.

Apple LIbrary Users Group
10381 Bandley Drive, M.S. 8-C
Cupertino, CA 95014

Diskette copies and informational brochures have also been deposited with LOEX (Library Orientation Instruction Exchange) Clearinghouse.

LOEX
Library, Eastern Michigan University
Ypsilanti, MI 48197

Libraries may download the stacks electronically using standard File Transfer Protocol (FTP) from the Internet.

Internet address: UTKLIB.LIB.UTK.EDU

Electronic transfer works best if one has a computer with an Ethernet card so the transfer can be accomplished quickly. Anonymous FTP is a facility offered by many computers on the Internet. It permits a user to log in using the user name "anonymous" or "ftp". When prompted for a password, type "guest" or one's own e-mail address. Giving the "dir" command will usually show the available files. Macintosh files can be recognized by the extension ".hqx".

The training materials available at the UT, Knoxville Libraries' electronic address bear file names that correspond to the training session titles:

Training Session	Stack (file) Name
Access to Periodicals	Periodicals Pts. 1-2
Computers in Libraries	Computers Pts. 1-5 Glossary-Computers
From Request to Shelf	From Request Pts. 1-4 Glossary-From Request
Library of Congress Classification	LC Pts. 1-4
Orientation	Orientation Pts. 1-8 Glossary-Orientation
Reference Services	Reference Pts. 1-3
Resource Sharing	Resource Pts. 1-2

Two supplementary files are required for use with each of the sets of session stacks: CBT Help and TraineeData. If one wishes to run the program as established at UT, Knoxville, then several "front-end" stacks are also needed: CBT Menu, CBT Opening-A, CBT Opening B, and Evaluation. See Appendix L for basic documentation of the CBT stacks (files).

The stacks were compressed and encrypted using shareware products, *Compactor* and *BinHex* before being loaded on the Library's MicroVax. A primary advantage of this software is that it creates a self-extracting archive which, after downloading, is automatically decompressed and ready for use.

Announcements of CBT Program Availability (March 1991)

1. Direct announcement was made to ARL libraries in March with a letter and copy of the brochure, *New Directions in Library Training*. The library directors and personnel officers of these libraries are the ones who responded to the original survey on training topics of need in academic libraries.

2. Electronic mail announcements were also sent in March to reach a large number of librarians throughout the country:

AppleLink: the electronic mail and bulletin board system of Apple Computer, Inc.
PACS-L: Public Acccess Computer Systems Forum, PACS-L@UHUPVM1.BITNET
BI-L: Bibliographic Instruction Forum, BI-L@BINGVMB.BITNET
LIBREF-L: Reference Services Forum, REF-L@KENTVM.BITNET
MLA-L: Music Library Association Mailing List, MLA-L@IUBVM.BITNET

3. Press releases were sent to major library journals to announce the program and explain how training materials may be obtained.

4. A copy of this report has been sent to the Educational Research Information Clearinghouse (ERIC) for publication and distribution as an ERIC document.

Presentations by Team Members (in chronological order)

Bayne, Pauline S. and Joe C. Rader. *Computer-based training using HyperCard.* Southeast Chapter, Music Library Association Annual Meeting. Knoxville, TN: October 13, 1989.

Bayne, Pauline S. *Authoring library staff training materials using HyperCard.* For the Small Academic Libraries Roundtable, Music Library Association Annual Conference. Tucson, AZ: February 16, 1990.

Bayne, Pauline S. and Joe C. Rader. *CBT for library staff.* Demonstration Project at UT, Knoxville Research Administration Reception for Grants and Awards Applicants. Knoxville, TN: August 21, 1990.

Bayne, Pauline S. and Joe C. Rader. Presentations internal to the University of Tennessee:
- Libraries' Department Heads and Supervisors, July 1990 (12 sessions)
- Chancellor's staff and Libraries' faculty, September 18, 1990

Bayne, Pauline S. *Computer-based training for library staff: a one-year project update.* Southeast Chapter, Music Library Association Annual Meeting. Memphis, TN: October 5, 1990.

Rader, Joe C. *Implementation of computer-based training program for library staff at The University of Tennessee, Knoxville.* Computers in Libraries Conference. Oakland, CA: March 12, 1991.

Grady, Agnes. *Developing quality staff training for quality service.* Joint meeting of the Academic Library Section, Kentucky Library Association and the College and Universities Section, Tennessee Library Association. Barren River Lake State Resort Park, KY: April 12, 1991.

Wallace, Alan H. and Jane S. Row. *Designing and producing effective instructional media packages.* Joint meeting of the Academic Library Section, Kentucky Library Association and the College and Universities Section, Tennessee Library Association. Barren River Lake State Resort Park, KY: April 12, 1991.

Grady, Agnes. *CBT for library staff: a demonstration.* Demonstration at Technology Showcase, Solinet Annual Meeting. Atlanta, GA: May 2, 1991.

Keally, Jillian and Martha E. Rudolph. *Orientation for library staff: A HyperCard module.* Poster session at the American Library Association Conference. Atlanta, GA: July 2, 1991.

Wallace, Alan H. *A Demonstration of CBT staff training units.* Library Instruction Roundtable Booth at the American Library Association Annual Conference. Atlanta, GA: July 2, 1991.

Articles and Publications about the CBT Program (in chronological order)

October - December 1989. Announcements of the award of this grant for research and demonstration appeared locally in the *Knoxville News-Sentinel*; the University of Tennessee, Knoxville campus newsletter, *Context* student newspaper, *The Daily Beacon*, and the Libraries' *Dean's Newsletter* ; and in the newsletter of the East Tennessee Library Association, *Contemporary Topics from ETLA*. The UT Office of University Relations issued a public relations news release. The UT, Knoxville Libraries prepared a news release for various library journals and distributed it nationally.

Bayne, Pauline S. "CBT: Computer-based training for library staff." *Hi-Tech Gnus* (January 1990) 1-2. [UT, Knoxville Libraries' Automation Department publication.]

Bayne, Pauline S. and Joe C. Rader. "Computer-based training for library staff: A demonstration project using HyperCard." *Library Software Review* 9 (May-June 1990): 149-150.

Rader, Joe C., et al. "HyperCard--a new medium for training." *The UTK Librarian* (Fall 1990) 4-5. [This periodical is distributed to ARL libraries.]

Bayne, Pauline S., Joe C. Rader, and Martha E. Rudolph. *New Horizons in Library Training.* March 1991. 5000 copies of this informational brochure were printed for distribution to ARL libraries, at conferences, and in response to individual requests.

Bayne, Pauline S. and Joe C. Rader. "Electronic distribution of CBT materials via the Internet." *Hi-Tech Gnus* (April 1991) 2.

Impact of the Project

The UT, Knoxville research and demonstration project has achieved its goal of innovative utilization of technology to meet national library needs. When the CBT project began there were no reports of HyperCard in use to meet library staff training needs. The project demonstrated that librarians, who were not computer programmers, were able to use HyperCard as an authoring tool to produce effective training units. The response of evaluators throughout the development and testing phases indicates that the machine-assisted method and the materials themselves are enjoyable and successful. Distribution of the CBT materials to other libraries means that training materials that were not available commercially are now available to thousands of academic libraries. The implementation plan developed at the UT, Knoxville Libraries shows that such a program can be instituted on a library-wide basis. Evaluation of the first six months of full implementation should provide further information about program viability on a continuing basis.

High turnover in academic libraries results in both direct and indirect costs to the organizations and those they serve. In discussing the fiscal impact of turnover, Zimmerer (1971) described six cost categories, two of which are "costs of new employee orientation and training," and "costs of lost productivitiy due to lack of training." The negative impact of less effective service in libraries can be related to factors such as turnover in staff, undertrained staff, or staff in need of retraining to meet today's burgeoning information-access requirements. Such problems related to staff training needs occur throughout the nation's academic libraries.

Every academic library having at least one Macintosh computer can make use of these training materials. With more equipment and one or more interested librarians, libraries can quickly tailor six of the seven units to suit practices of the institution. The extensive use of graphics, animation, and sound; the careful attention to a consistent user interface and careful screen design in these materials should serve as examples of the vitality possible in interactive computer-assisted instruction.

This project has demonstrated that an exciting new software medium can be used by librarians to produce quality training units that are interactive, teach skills and procedures, offer problem-solving, testing, and practice. Such units, presented in an interesting learning environment go far beyond the typical library training methods, whether written or delivered one-to-one. Project developers look forward to responses of librarians external to the University of Tennessee as they review and use these materials.

Project Evaluation

Evaluation of Training Units

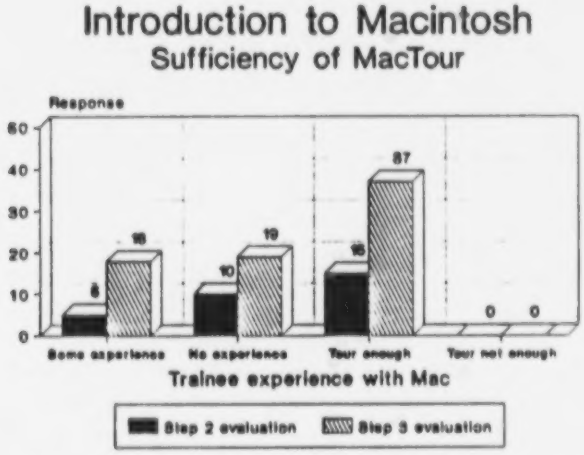
The first two evaluation stages were designed as formative evaluation, that is, to gather information from evaluators that would lead to revision and improvement in the instructional material. An evaluation questionnaire was used to gather these responses. This questionnaire is provided in Appendix D. Evaluators completed 16 questionnaires in evaluation stage 1 and an additional 106 (5 to 11 individuals for each of the 13 separate sessions given in whole and divided sittings) in evaluation stage 2. Evaluator comments and responses were vital to developers but are not important to report because co-authors changed the units greatly based on these responses.

Formative evaluation helps to identify mechanical problems, such as unclear explanations, missing information, typographical and grammatical errors, test questions and explanations that are not correct, etc. In the computer-based environment, they also identify animation and graphics that do not operate correctly or do not enhance the instructional concepts, dead ends in branching, mechanisms (such as glossary or navigation buttons) that do not operate, sequences that are too fast or too slow, and other problems related to information as communicated through sight and sound on the computer screen.

A comparative questionnaire, designed for use after stage 2 evaluators had seen all training units, asked for ratings of all units and the program as a whole. Evaluators rated each unit as very good or excellent overall. The form is given in Appendix E.

Program developers provided one other method for trainees to communicate about the experience. A comment screen at the end of each unit permitted each trainee to type comments about the materials or the program in general. This information, along with unobtrusively collected use data (trainee, department, employee classification, session, time spent on subsections and the entire session, questions missed, test score), was written to a special file as each trainee completed a session. This feature, used in stages 2 and 3, remains an ongoing method of collecting evaluations during full implementation of the CBT program. Weekly reports of this information are sent to supervisors. A full assessment of this data will be made after six months of full implementation.

Evaluation stage 3, the field test, collected information about the procedural aspects of the training program and the training facility, as much as the units themselves. Data gathering occurred again through the use of an evaluation questionnaire--210 questionnaires from 13-26 individuals per unit. A total of 49 individuals participated in the field test. Results of field test evaluation are reported here in graphic form because they show response of supervisors and new employees to the training units in nearly final form. Of course, problems identified at this stage were corrected--project directors made some changes in a final editing of each unit.



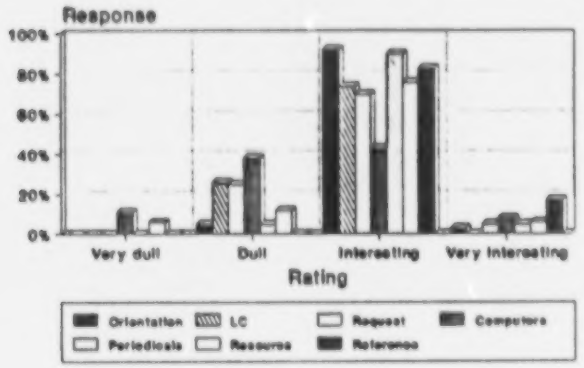
From the graph above it is obvious that all users found part 1 of the Apple Tour of Macintosh to be a sufficient introduction to use of the mouse for basic skills needed as a trainee in the program. Novice users of the Macintosh were completely satisfied with this introduction.

The first set of graphs offers a comparison of all seven training units. Evaluation questions were grouped into three areas: content (questions 3-8), review and testing (questions 10-13), and CBT features (questions 9, 14-15). These graphs, one for each question, show the percentage of responses in each rating area; descriptive rating terms have been taking from the questions themselves. Percentages were used to display results of all sessions on the same graphs to allow comparisons despite the varying number of individuals taking each unit.

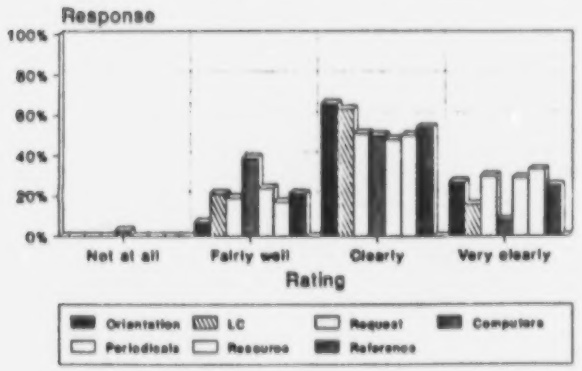
Evaluation of Session Content

The questions dealing with instructional content revealed that program users found the instruction to be above average in all areas: interest level, understanding of content, completeness of information, level of instruction, pace of instruction, and length of session. While there were variations from training unit to training unit, ratings were gratifyingly high.

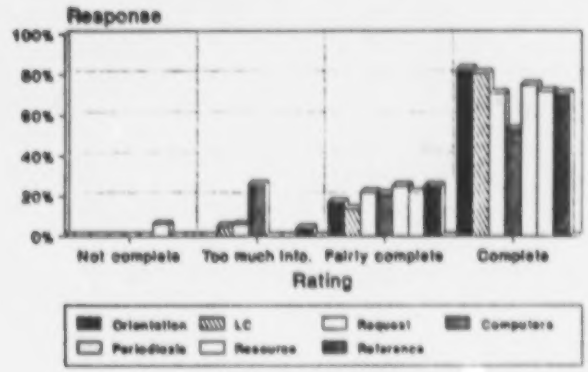
1. Interest



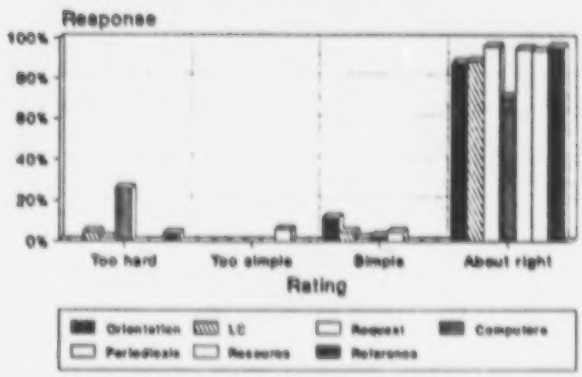
2. Understandable



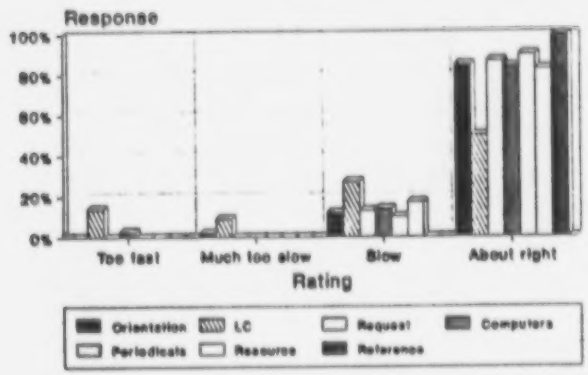
3. Completeness of Information



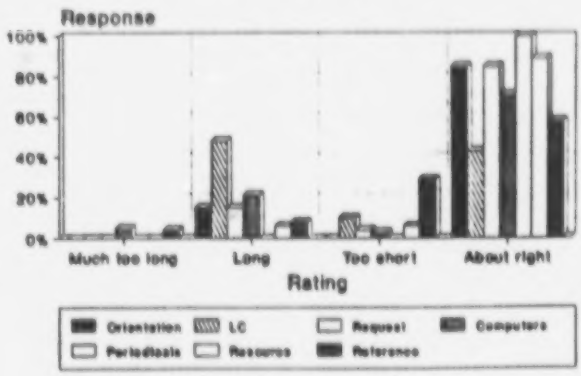
4. Instructional Level



5. Pace of Instruction



6. Length of Session



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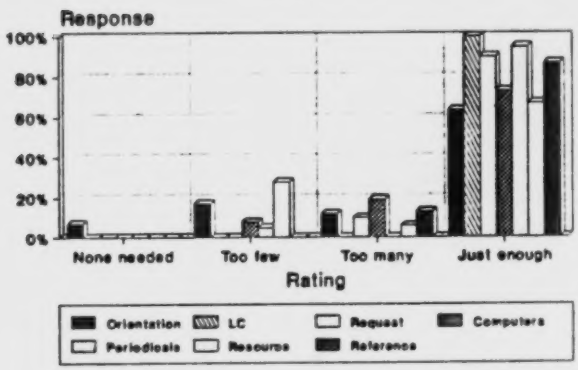
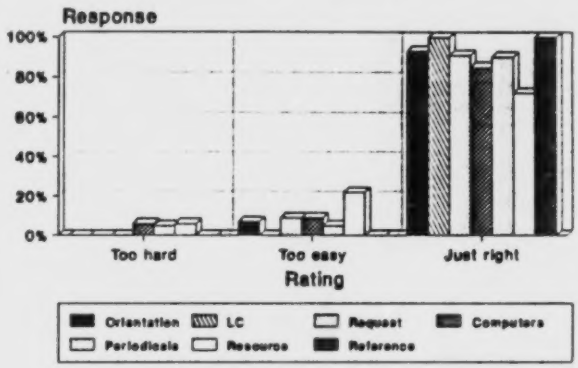
Evaluation of Review and Testing

The ratings on review and testing consistently showed very high marks. Most evaluators felt there were just enough review exercises, that these exercises were appropriate to the instruction and learner, and that there was just enough feedback given for each review question. Review questions always give a response indicating whether the answer is correct and giving the correct answer. Where there were test questions (*Library of Congress Classification, From Request to Shelf, and Computers in Libraries*), evaluators rated the appropriateness of these questions as "just right."

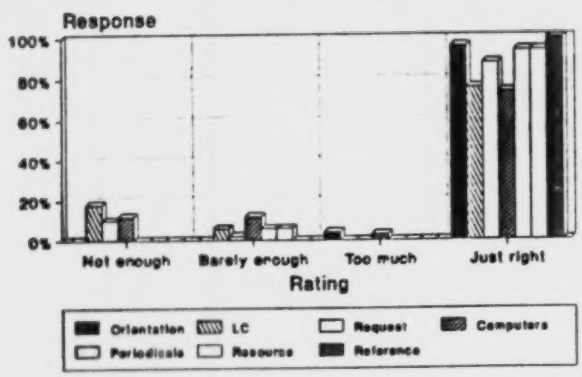
1. Review exercises



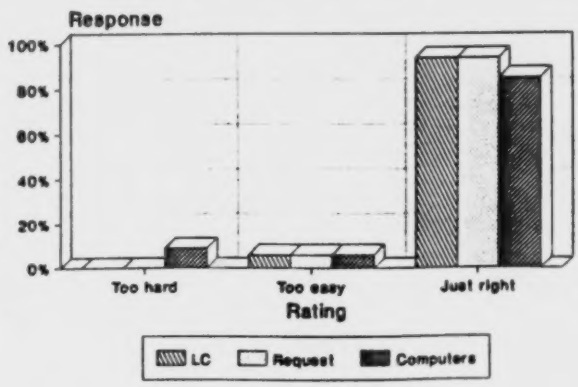
2. Appropriateness of Review Exercises



3. Review feedback



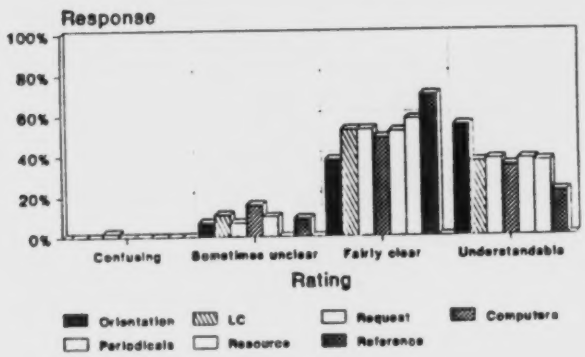
4. Appropriateness of Test Questions



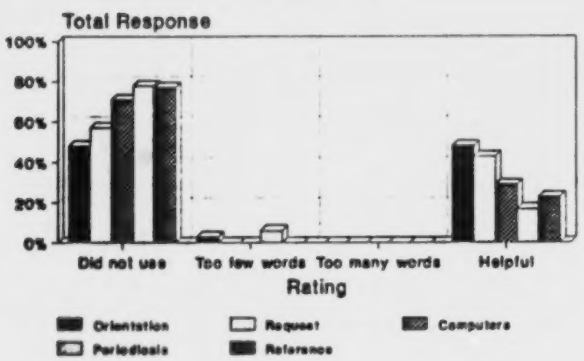
Evaluation of CBT Features

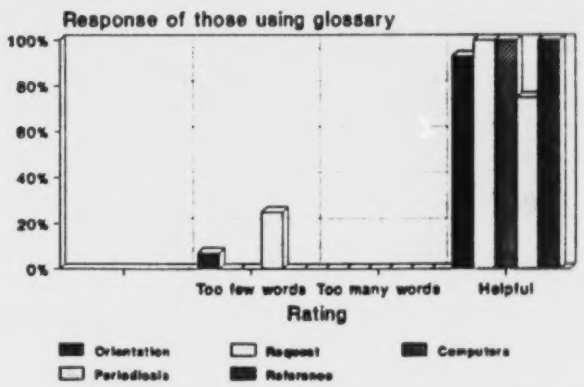
Developers used three questions to inquire about features unique to CBT, concerning 1) onscreen instructions, 2) the glossary feature (hypertext ability to click on a word to see its definition), and 3) online help screens. The graphs for glossary and help features show that the majority of evaluators did not use these features. A second graph for each of these indicates that when trainees did use the features, they found them helpful.

1. Onscreen Instructions

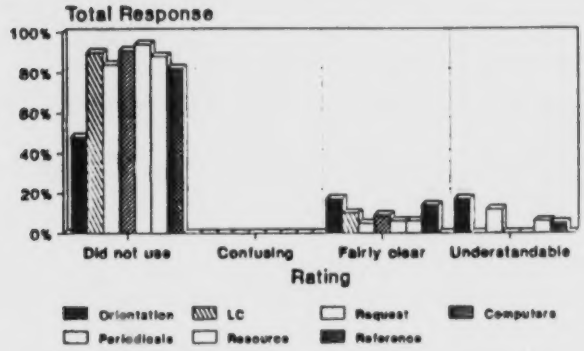


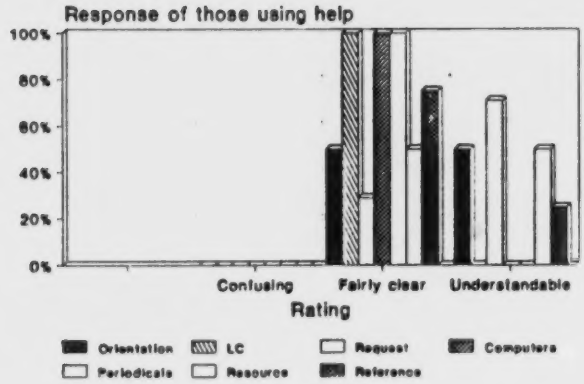
2. Glossary





3. Help screens



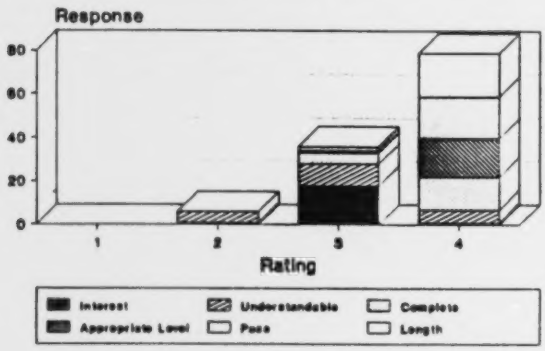


The second set of graphs provides a capsule view of the trainees' response to each training unit. Three graphs for each unit show numerical responses (number of trainees giving the rating) to evaluation questions grouped again for content, review and testing, and CBT features. This time the responses are ordered from least desirable (1) to most desirable (4) rather than having descriptive terms.

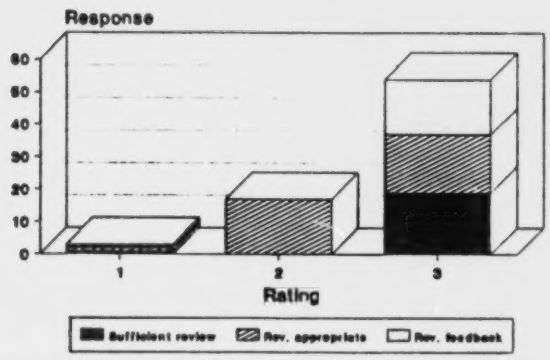
Access to Periodicals

Note: These graphs are not visually comparable because the number of responses varies greatly in each.

Content Evaluation

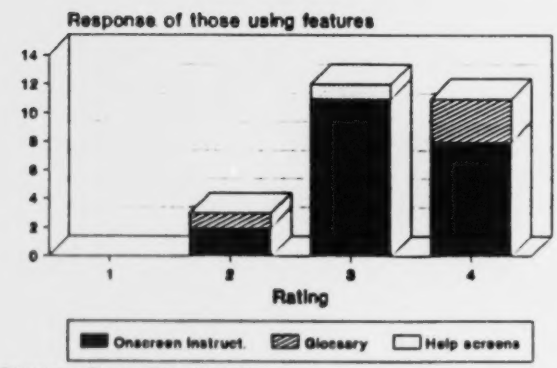


Review and Testing



Lowest rating = 1

Access to Periodicals
CBT Features



Did not use: Glossary-78% Help-94%

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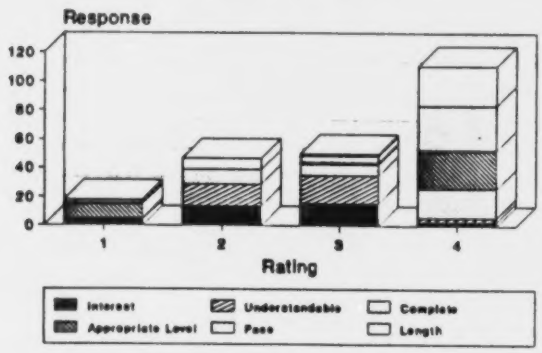
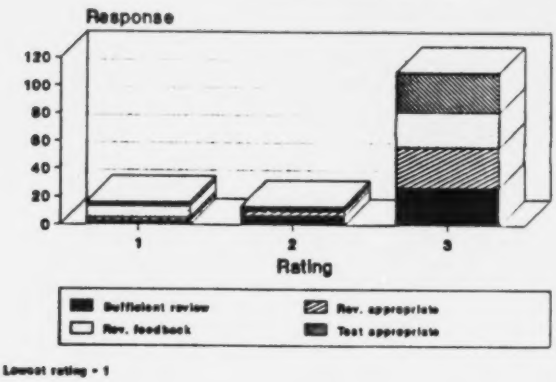
Computers in Libraries

Note: These graphs are not visually comparable because the number of responses varies greatly in each.

Content Evaluation

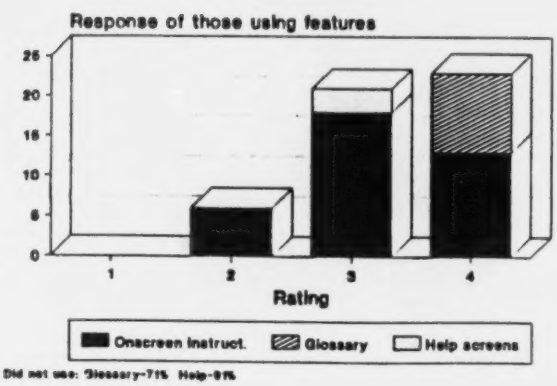


Review and Testing



Lowest rating = 1

Computers in Libraries
CBT Features



Did not use: Glossary-71% Help-9%

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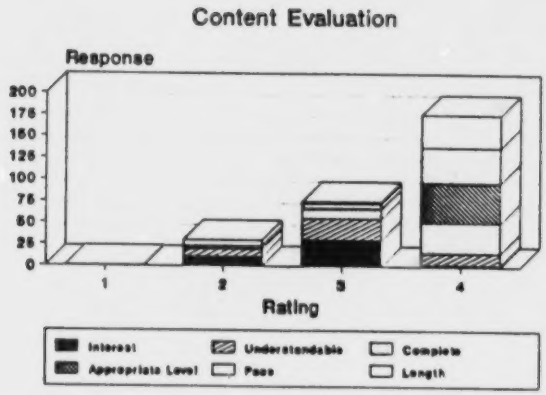
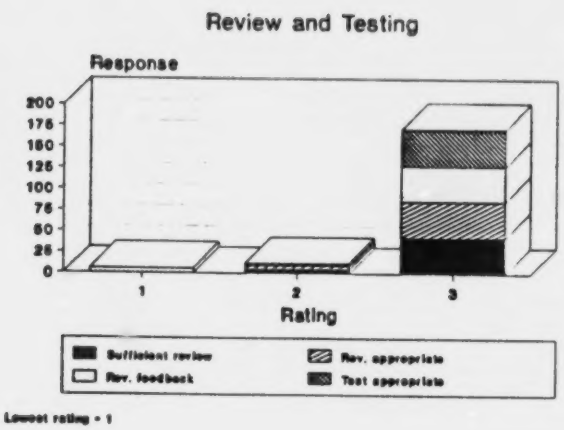
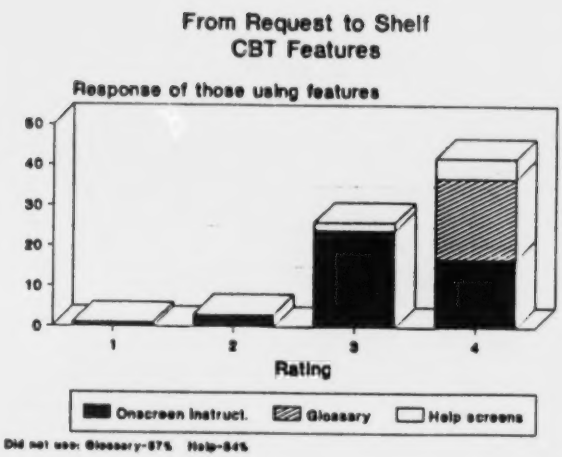
From Request to Shelf

Note: These graphs are not visually comparable because the number of responses varies greatly in each.





Lowest rating = 1



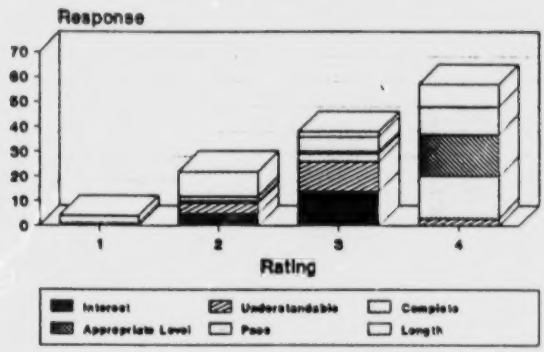
Did not use: Glossary-57% Help-84%

BEST COPY AVAILABLE

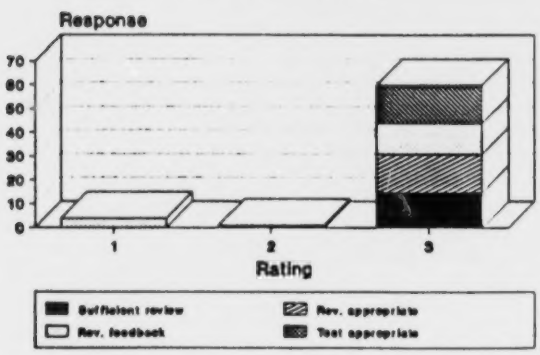
Library of Congress Classification

Note: These graphs are not visually comparable because the number of responses varies greatly in each.

Content Evaluation

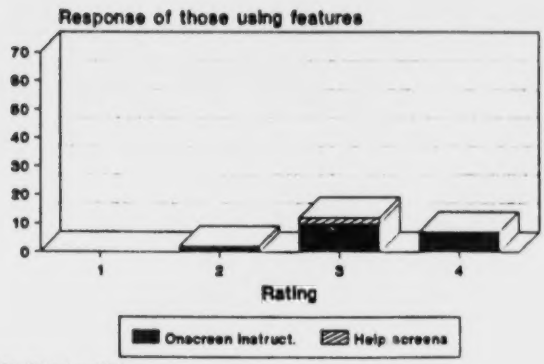


Review and Testing



Lowest rating = 1

Library of Congress Classification
CBT Features



90% did not use Help

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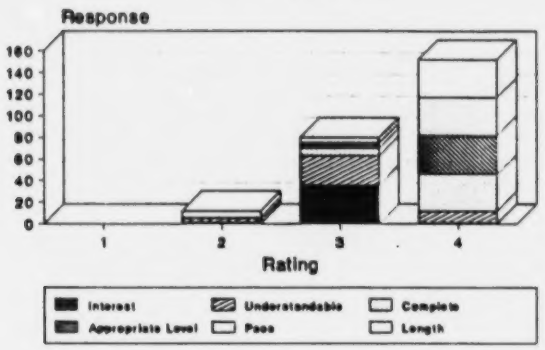
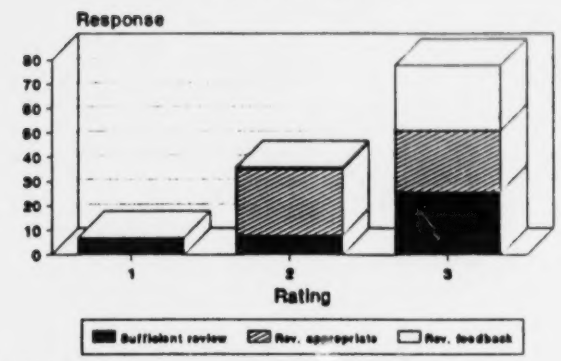
Orientation

Note: These graphs are not visually comparable because the number of responses varies greatly in each.

Content Evaluation

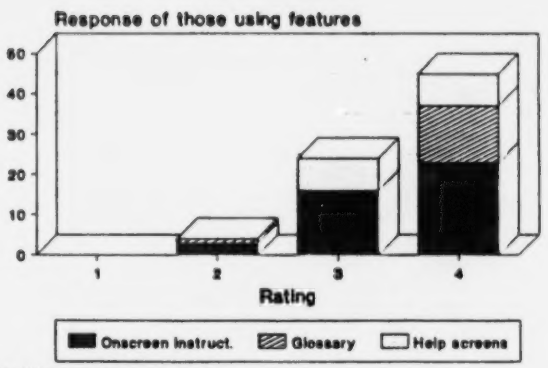


Review and Testing



Lowest rating = 1

Orientation
CBT Features



48% did not use Glossary and Help

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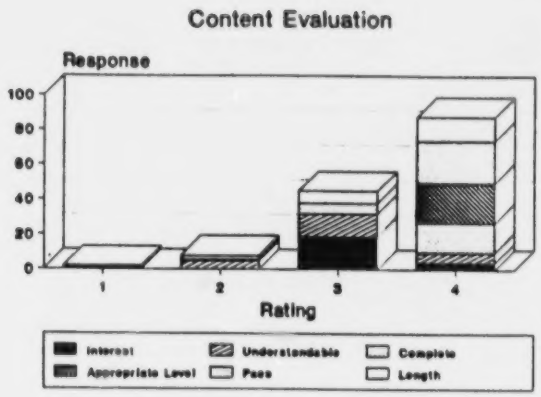
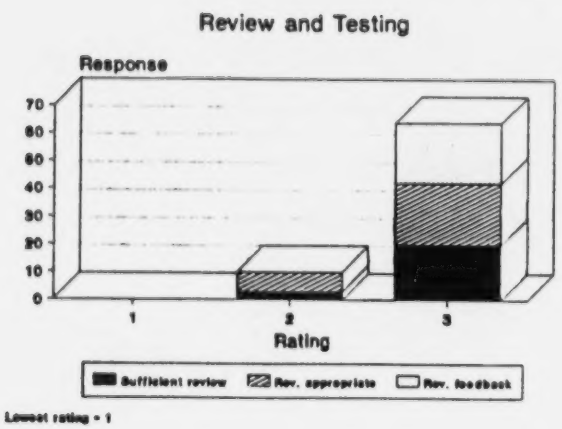
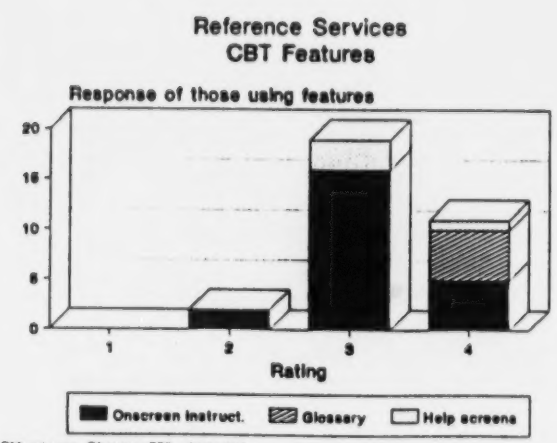
Reference Services

Note: These graphs are not visually comparable because the number of responses varies greatly in each.





Lowest rating = 1



Did not use: Glossary-77% Help-82%

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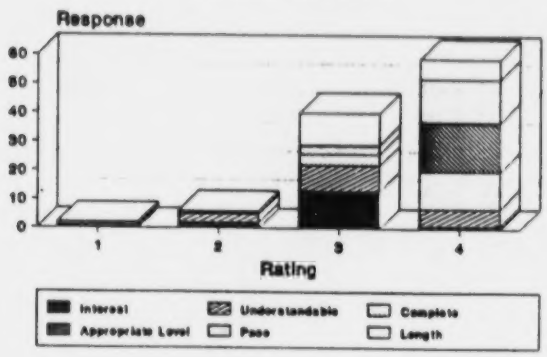
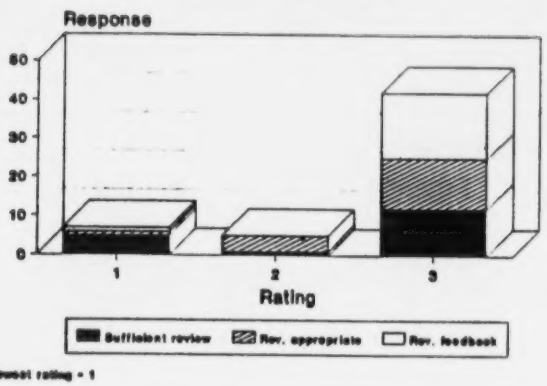
Resource Sharing

Note: These graphs are not visually comparable because the number of responses varies greatly in each.

Content Evaluation

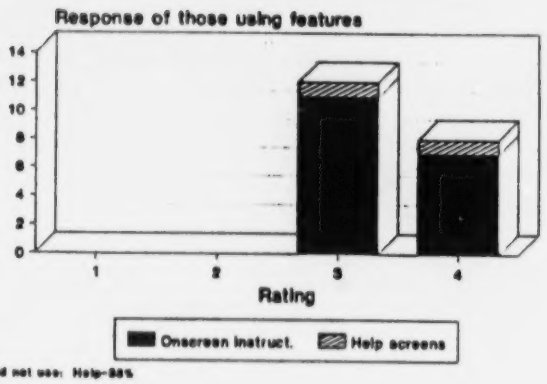


Review and Testing



Lowest rating = 1

Resource Sharing
CBT Features



Did not use: Help-88%

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Program Evaluation

Project directors conducted a telephone survey in February to determine responses to the CBT program as a whole. A stratified sample of those who had completed the program by February 25, 1991 was taken. A total of 76 individuals had completed the program and another 49 were currently in the program. The sample was stratified to include 7 supervisors, 5 non-exempt trainees, and 5 student trainees from 11 library departments. Directors interviewed 17 individuals (a 21% sample) with the following results:

Telephone Survey of Response to CBT Program

	Supervisors n = 7	Non-exempt n = 5	Students n = 5
1. No difficulty scheduling sessions.	71%	100%	80%
2. Introduction to program sufficient.	100%	100%	80%
3. Supervisor's reports satisfactory.	86%	NA	NA
4. Amount of time acceptable.	100%	80%	100%
5. CBT program will produce better staff (or own) performance.	86%	80%	100%
6. Expect to change department training due to CBT program. [14% maybe]	0%	NA	NA
7. No negative feedback from employee trainees.	71%	NA	NA
8. No negative feedback from own supervisors.	100%	NA	NA
9. There should there be additional library-wide CBT units. [43% yes, 43% maybe]	86%	NA	NA
10. There should there be department-specific CBT units. [43% yes, 29% maybe]	72%	NA	NA

11. Aspects of program that were liked:
    --Presented good, necessary information for people just starting in libraries.
    --Animation, sound, interaction, and humor enhanced learning; using the Mac was good experience; user in control.
    --Overview of library; good to learn about other departments and how they interact.
    --Quizzes [for review] with feedback and retry possibility.
12. Aspects of program that were disliked:
    --Presentation matters: small print of screen; some of the beeps and bells a little annoying; sometimes animation too slow.
    --Uneveness of units: a few were too long, computers unit was complicated.
    --Couldn't retry test questions or get explanation.

Two versions of the interview questionnaire (for supervisors and for trainees) appear in Appendix F.

Although not designed until full implementation had begun in February 1991, a program evaluation form is now part of the onscreen materials available to each trainee. The last step for a trainee in the program is to select "Program Evaluation" from the CBT menu while at a training machine. The onscreen evaluation form asks general questions about satisfaction with the program and gives the trainee an opportunity to identify problems, to recommend changes, or to give any comments desired. Information recorded from this form is anonymous and is identifiable only by class of employee: staff, faculty, or student. Questions from the form are reproduced in Appendix J.

Continuation of Project

A survey of CBT team members indicated a high degree of enthusiasm for continued development of HyperCard-based training and instruction materials at the UT, Knoxville libraries. Libraries faculty and staff have indicated an interest in developing additional units for the library-wide CBT program, with preservation of library materials as a priority topic. Individual departmental staff would like to have computer-based training units specific to the training needs of their employees. Development of such departmental training units will rest on the Libraries' ability to train other developers and to provide additonal equipment. Topics that have been suggested include circulation policies and the online circulation system, using the online acquisitions system, training for adaptive catalogers, an introduction to e-mail, and others.

Reference faculty are currently planning ways to bring HyperCard-based instruction into their library instruction program. It should be possible to adapt some of the CBT units for instruction of students. Library CAI units could be available to students on the campus computer network thereby providing access in the Libraries, in computer laboratories, and in their own dormitory rooms.

Members of the project team (numbers indicated in parentheses) are willing to be involved in these areas of future development:

- Training supervisors to administer CBT in eary January 1991 (4)
- Demonstration leader for group viewings of CBT modules (2)
- Author or co-author on a future library-wide CBT topic (7)
- Author or co-author on future units
    1) Departmental computer-based training: (5)
    2) Bibliographic instruction (BI) topic: (2)
- Resource person to guide a new HyperCard developer in the Libraries [short of co-authoring] (7)
- Resource person on use of graphics or sounds in HyperCard-based instruction. (4)
- Trainer for "Using HyperCard" (3)
- Trainer in instructional design or graphic design for HyperCard developers (2)
- Member of CBT review panel or advisory committee for future development (7)

Another area that developers would like to pursue is the transfer of HyperCard CBT units from the Apple to the DOS platform. At this time HyperTool, which is DOS-based, is the software most suitable for testing such a transfer. Success in transferring these training materials would broaden their usability both within the UT, Knoxville Libraries and others having DOS-based microcomputers.

Because of the close involvement of UT Libraries staff in evaluation of training units and testing of implementation plans, it was not possible to conduct pre-tests and post-tests of individual trainees. Three members of the project team have proposed using a similar academic library as a replication experiment site, where measuring the impact of the CBT program on staff performance would be the goal. Bayne, Keally, and Rader plan to pursue this research, perhaps as early as summer, 1991. Inquiries are currently underway with the University of Kentucky Library administration.

FINANCIAL STATUS REPORT

(Short Form)

(Follow instructions on the back)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned By Federal Agency	OMB Approval No	Page	of
Department of Education	R197D90040	0348-0039	1	1 pages

3. Recipient Organization (Name and complete address, including ZIP code)

THE UNIVERSITY OF TENNESSEE
201 ANDY HOLT TOWER
KNOXVILLE, TN 37996-0100

4. Employer Identification Number	5. Recipient Account Number or Identifying Number	6. Final Report	7. Basis
1626001636A1	B01995491/R01601097	☒ Yes ☐ No	☒ Cash ☐ Accrual

8. Funding/Grant Period (See instructions) From: (Month, Day, Year)	To: (Month, Day, Year)	9. Period Covered by this Report From: (Month, Day, Year)	To: (Month, Day, Year)
10/01/89	09/30/90	10/01/89	09/30/90

10. Transactions:	I Previously Reported	II This Period	III Cumulative
a. Total outlays	0.00	138,987.44	138,987.44
b. Recipient share of outlays	0.00	76,542.74	76,542.74
c. Federal share of outlays	0.00	62,444.70	62,444.70
d. Total unliquidated obligations			0.00
e. Recipient share of unliquidated obligations			0.00
f. Federal share of unliquidated obligations			0.00
g. Total Federal share *(Sum of lines c and f)*			62,444.70
h. Total Federal funds authorized for this funding period			66,901.00
i. Unobligated balance of Federal funds *(Line h minus line g)*			4,456.30

11. Indirect Expense	a. Type of Rate *(Place "X" in appropriate box)* ☐ Provisional ☒ Predetermined ☐ Final ☐ Fixed	b. Rate	c. Base	d. Total Amount	e. Federal Share
		31.1%	26,276.66	8,172.04	8,172.04

12. *Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation.*

13. Certification: **I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents.**

Typed or Printed Name and Title	Telephone (Area code, number and extension)
Donald E. Reed, Accountant	(615)974-2493
Signature of Authorized Certifying Official: ORIGINAL SIGNED BY DONALD E. REED	Date Report Submitted: March 27, 1991

Previous Editions not Usable

Standard Form 269A (REV 4-88)
Prescribed by OMB Circulars A-102 and A-110

Cost-Sharing
Log of Time Contributed by CBT Team

	October 1989 - June 1990	July - December 1990	TOTAL Cost-Sharing
PROJECT DIRECTORS			
Bayne, Pauline S. Cost-sharing: Grant funded:	 152 [780]	 660 [260]	 812 [1040]
Rader, Joe C. Cost-sharing: Grant funded:	 0 [689]	 70 [351]	 70 [1040]
CO-AUTHORS			
Britten, William	164	84	248
Grady, Agnes	248	134	382
Keally, Jillian	153	62	215
Rudolph, Martha	167	81	248
Thomas, Steven R.	202	58	260
Wallace, Alan	130	102	232
Webster, Judith D.	71	70	141
PROJECT ADMINISTRATOR			
Kaufman, Paula	50	50	100
TOTAL HOURS Cost-sharing: Grant funded:	 1337 [1469]	 1371 [611]	 2708 [2080]
TOTAL DOLLARS COST-SHARING:	$29,391.70	$25,221.24	$45,612.84

Inventory of CBT Equipment
Funded by Department of Education Grant

MACINTOSH COMPUTERS

ITEM	USED FOR	LOCATION
SE/30	Development	Music 301-B
SE/30	Development	Hodges Rm. 450-D
SE/30	Development & implementation	Hodges Rm. 658 Library Personnel Office
SE/30	Development	Hodges Rm. 120-D
SE/30	Development	Hodges Rm. 647
SE	Staff training	Hodges Rm. 245-A
SE	Staff training	Hodges Rm. 245-A
SE	Staff training	Hodges Rm. 245-A
SE	Staff training	Hodges Rm. 245-A
Classic	Staff training	Agriculture Library
Classic	Staff training	Hoskins Library
Classic	Staff training	Music Library
Classic	Staff training	Hodges Rm. 245-A

PERIPHERALS

Printer	Development	Hodges Rm. 327-A
Printer	Development & implementation	Hodges Rm. 450-D
Printer	Development	Hodges Rm. 658 Library Personnel Office
Printer	Development	Hodges Rm. 647
Printer	Development	Hodges Rm. 647
Optical scanner	Development	Hodges Rm. 450-D
Screen projection unit	Staff training & dissemination	Hodges Rm. 658 Library Personnel Office

SOFTWARE & BOOKS

MacRecorder (digitizes sound)	Development	Hodges Rm. 450-D
HyperCard books	Development	Hodges Rm. 450-D
MacGraphics (clip art)	Development	Hodges Rm. 450-D
StuffIt Deluxe (compression & encryption software)	Development	Hodges Rm. 450-D

IV. References

Dick, Walter and Lou Carey. 1985. *The Systematic Design of Instruction* 2nd edition. Glenview, IL: Scott, Foresman.

Eurich, N. P. 1985. *Corporate Classrooms*. Princeton, NJ: Carnegie Foundation.

Goldstein, Irwin L. 1985. *Training in Organizations*, 2nd ed. Belmont, CA: Wadsworth, Inc.

Neal, J. G. 1984. "The Turnover Process and the Academic Library." In *Advances in Library Administration and Organization*, v.3: 47-71. Greenwich, CT: JAI Press.

Zimmerer, T. 1971. "The True Cost of Labor Turnover." *Management of Personnel Quarterly* 10: 9-12.

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Appendix A

University of Tennessee, Knoxville Libraries
Needs Assessment: Computer-based Staff Training

In order to provide more efficient, broader, and competency-based training to all new staff members, we are investigating the use of Macintosh computers and HyperCard-based training modules for library staff training.

A prototype module, designed to introduce the Library of Congress Classification, has been produced and is being tested at this time. What other topics should be considered for this type of training? We are looking for topics that will introduce employees to the context of library work--its service goals, vocabulary, and basic technical information. These topics should be ones that go beyond specific job assignments but contribute to the overall effectiveness of our staff.

PLEASE CIRCLE YOUR RESPONSE FOR QUESTIONS 1 - 4.

1. Have you ever observed or participated in computer-assisted instruction or computer-based training?

   YES NO

2. Have you seen HyperCard demonstrated?

   YES NO

3. Do you believe computer-based training can be effective for some kinds of staff training?

   YES NO

4. One potential library objective for training might include preparation of five or six computer-based training units (up to one hour each) addressed to general library knowledge and skills.

   Would you support such training for all new staff?

   YES NO

5. PLEASE RANK THE FOLLOWING TOPICS IN ORDER OF IMPORTANCE for staff training (1 = highest rank). The specific content of the units will be determined during development. FEEL FREE TO SUGGEST ADDITIONAL TOPICS.

___ Preservation of Library Materials

___ Access to Journal Literature

___ OLIS Circulation Module

___ OLIS Reserve Module

___ Circulation Policies

___ Service Attitudes and Behaviors

___ Introduction to Reference Work

___ OLIS Online Catalog

___ Using E-Mail and All-in-One

___ Technical Services--the Bibliographic Support System

___ Orientation to the UTK Libraries Organization

Other topics:

___

___

___

RETURN TO: Library Personnel Office
630 Hodges Library

DUE: September 15, 1989

Appendix B

University of Tennessee, Knoxville Libraries
Survey of ARL Libraries
Computer-based Training Topics

A Title II-D grant-funded project will enable faculty of the UTK Libraries to develop six staff training modules using HyperCard on Macintosh computers. These modules will be made available to other libraries at cost at the end of the grant period, September 30, 1990.

Please rank the following 9 topics in order of preference with 1 indicating the most desirable topic and 9 the least useful topic. (Do not repeat a number).

___ **Orientation to the academic library**
(to cover general mission and environment, UTK organization and layout. This will serve best as an example of CBT for the purpose of orientation.)

___ **Acquiring & processing library materials--from request to shelf**
(an overview of the technical processes required to provide materials to library users)

___ **Integrated online systems for libraries**
(a general introduction to the automation of library processes, including acquisition, cataloging, circulation, and the online public catalog; not vendor specific)

___ **Access to journal literature**
(identifying citations--use of indexes, database searching, CD-ROM--interpreting citations, locating materials in various formats)

___ **Preservation of library materials**
(from general preservation concepts to specific procedures for handling library materials)

___ **Service attitudes and behaviors**
(use of case studies or simulation to guide staff in interactions with patrons)

___ **Introduction to reference work**
(the reference interview, categories of reference sources, referral to experts)

___ **Introduction to government documents**
(definitions of documents and depository libraries, types of information and materials, access tools)

___ **Resource sharing**
(general interlibrary loan policies, new services & technologies such as document delivery, fax, electronic full text)

Please suggest other topics that would be of general interest for staff training.

_____

_____

_____

Form completed by:

Name: _____

Position: _____

Library: _____

___ Check here if you wish to receive survey results and further project information.

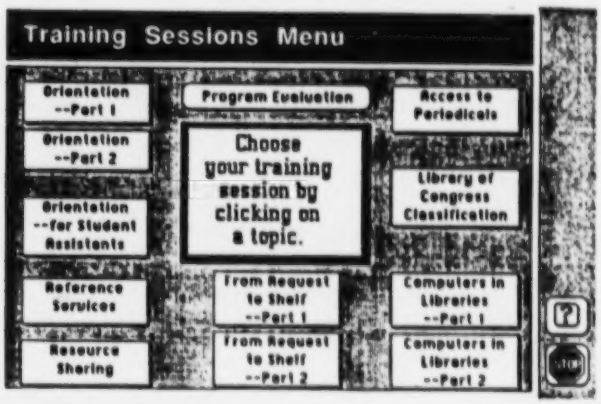
Thank you for your assistance. Please return before **December 1** to:

Pauline S. Bayne
CBT HyperCard Project
Music Library
University of Tennessee
Knoxville, TN 37996-2600

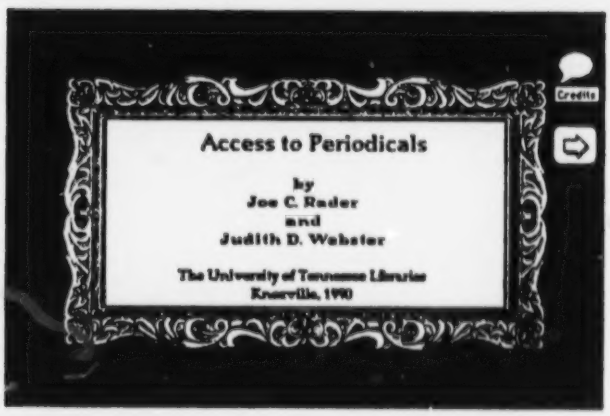
Appendix C

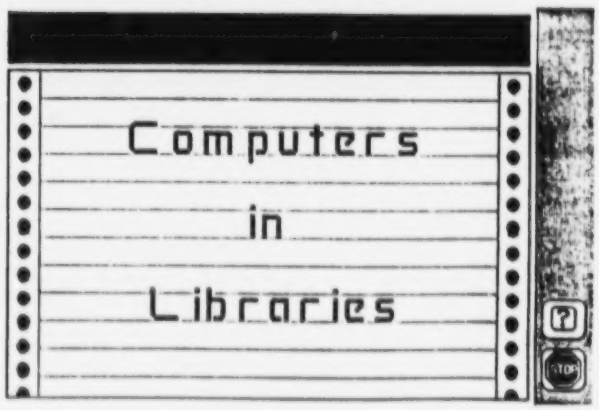
Sample Screen Designs Used in CBT Sessions

Program title screen.



Program menu.





Titles of individual sessions show stylistic variety.

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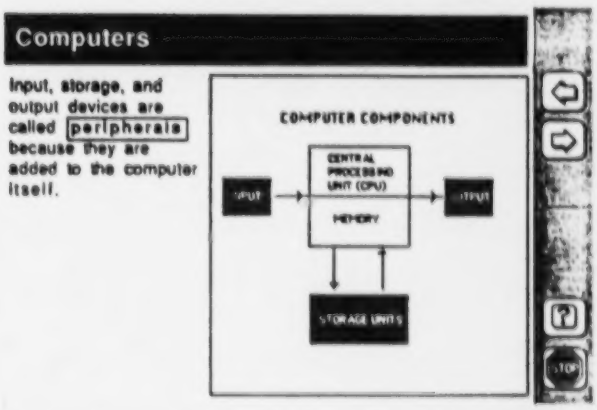
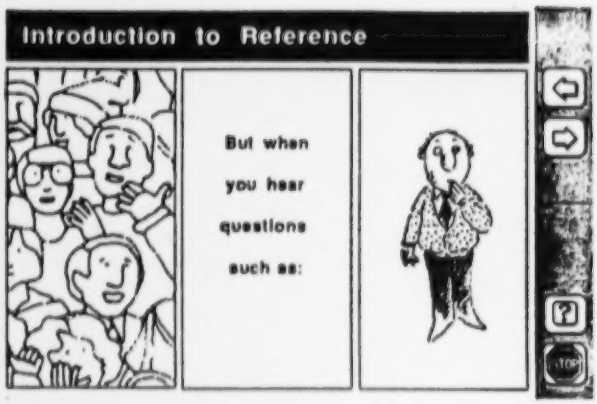
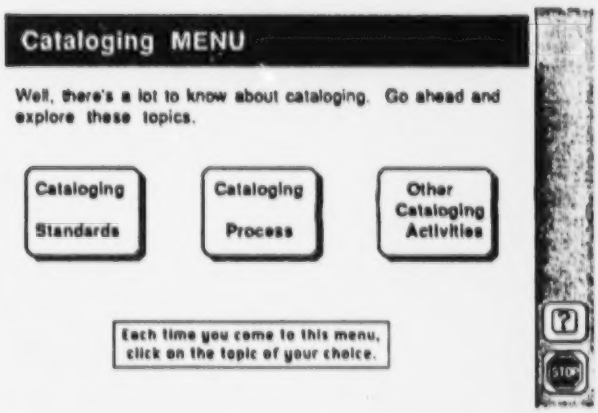
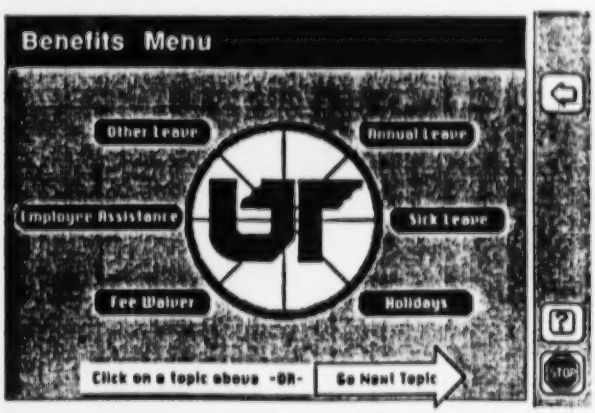




Basic screen design has a header bar at the top and navigation buttons on the right.


Cataloging MENU
Well, there's a lot to know about cataloging. Go ahead and explore these topics.
Cataloging Standards
Cataloging Process
Other Cataloging Activities
Each time you come to this menu, click on the topic of your choice.



Menus within sessions give trainees control of which material to view or the order in which to view it.

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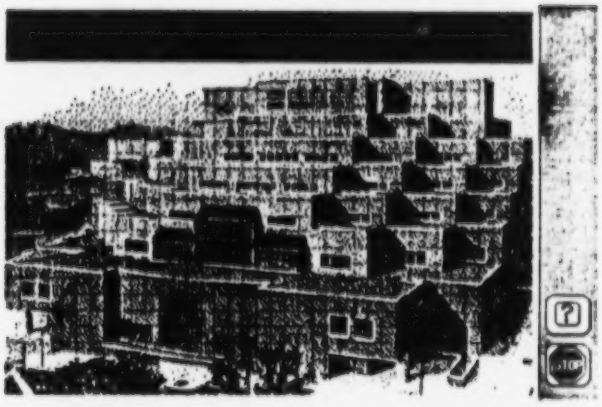
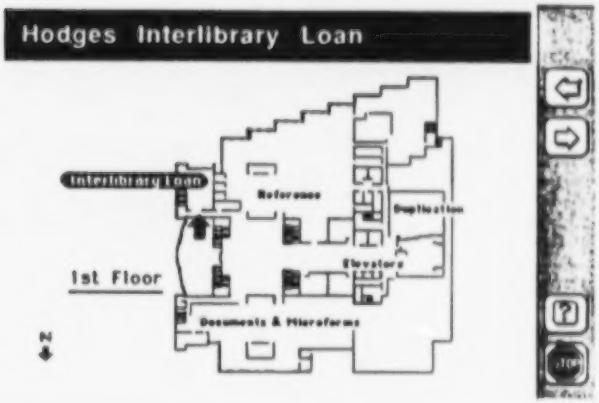
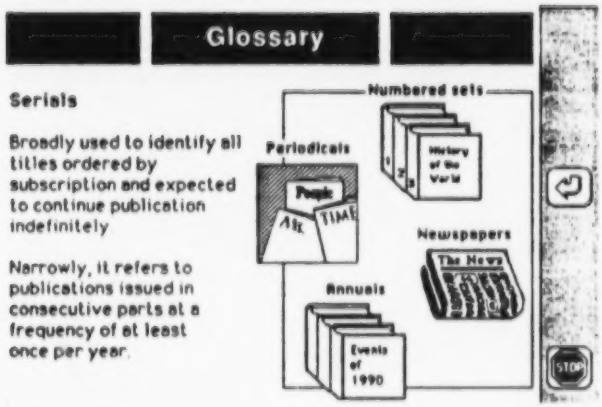
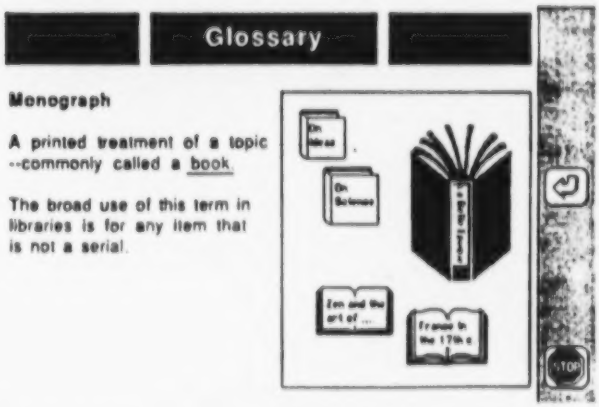




Sometimes the full screen is devoted to graphics, scanned or created within HyperCard.




Glossary
Monograph
A printed treatment of a topic --commonly called a book.
The broad use of this term in libraries is for any item that is not a serial.
STOP

Glossary cards have a standard format. The return arrow takes a trainee back to his/her point in the training session.

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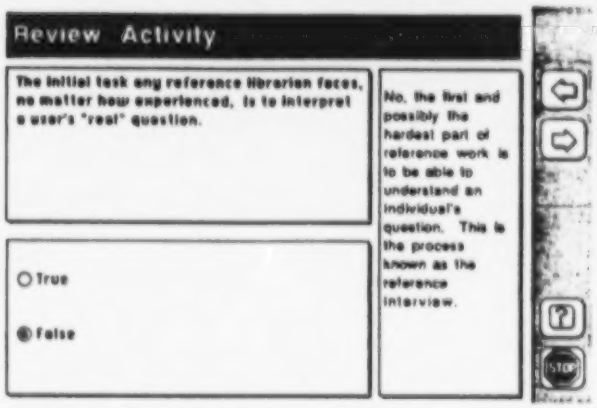
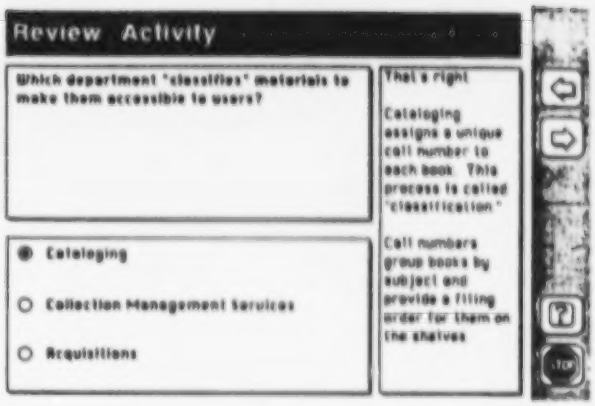
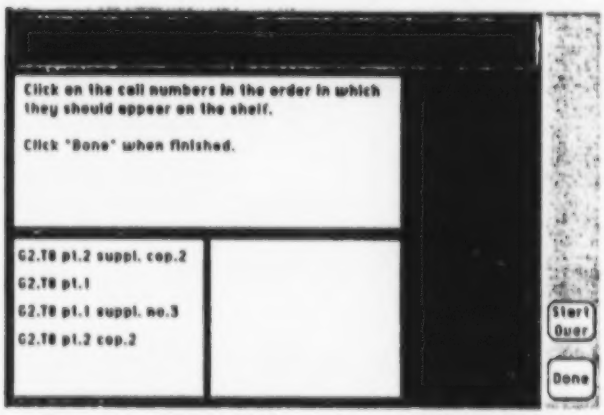
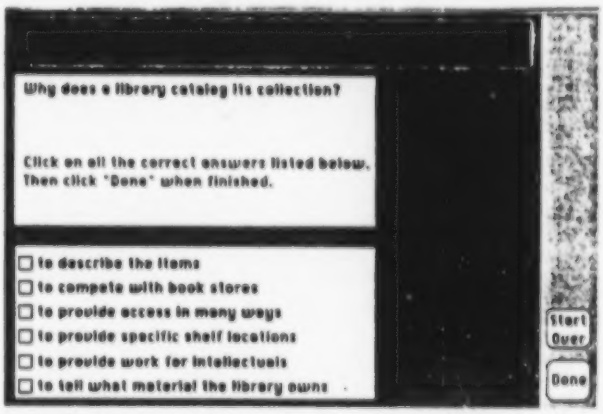

Review Activity
The initial task any reference librarian faces, no matter how experienced, is to interpret a user's "real" question.
True
False
No, the first and possibly the hardest part of reference work is to be able to understand an individual's question. This is the process known as the reference interview.
STOP

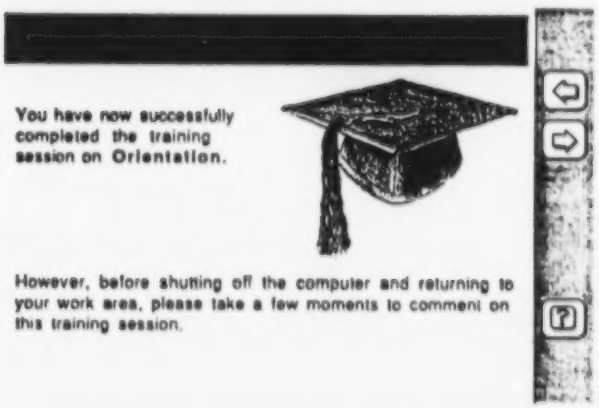

Review Activity
Which department "classifies" materials to make them accessible to users?
Cataloging
Collection Management Services
Acquisitions
That's right
Cataloging assigns a unique call number to each book. This process is called "classification."
Call numbers group books by subject and provide a filing order for them on the shelves
STOP

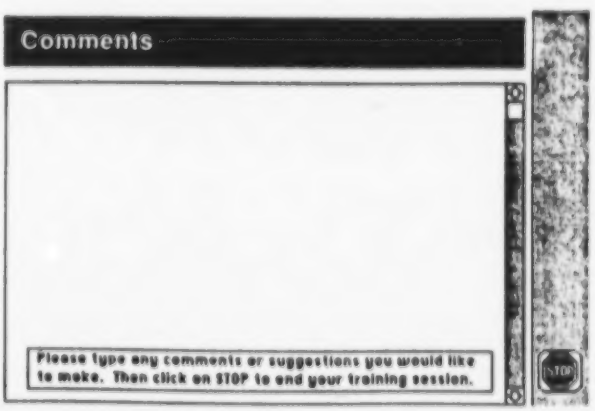
Review questions always display the correct answer.


Click on the call numbers in the order in which they should appear on the shelf.
Click "Done" when finished.
G2.T8 pt.2 suppl. cop.2
G2.T8 pt.1
G2.T8 pt.1 suppl. no.3
G2.T8 pt.2 cop.2
Start Over
Done


Why does a library catalog its collection?
Click on all the correct answers listed below. Then click "Done" when finished.
to describe the items
to compete with book stores
to provide access in many ways
to provide specific shelf locations
to provide work for intellectuals
to tell what material the library owns
Start Over
Done

Test questions tell the trainee whether he/she was correct or incorrect and then move automatically to the next question. A final score is displayed.


You have now successfully completed the training session on Orientation.
However, before shutting off the computer and returning to your work area, please take a few moments to comment on this training session.


Comments
Please type any comments or suggestions you would like to make. Then click on STOP to end your training session.
STOP

The trainee is given a clear ending to each session and an opportunity to type comments.

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Appendix D

Evaluation Questionnaire

Training Session:
o Orientation for SLAs
o Orientation Pt. 1
o Orientation Pt. 2
o Library of Congress Classification
o From Request to Shelf Pt. 1
o From Request to Shelf Pt. 2
o Introduction to Reference
o Resource Sharing
o Computers in Libraries Pt. 1
o Computers in Libraries Pt. 2
o Access to Periodicals

Evaluation Stage:
o 1. One-to-one
o 2. Full review
o 3. Field test

Employed at UT Libraries before July 1, 1990:
o Yes o No

Start time: _____
Stop time: _____

NAME: _____

---

1. Have you used a Macintosh before? o No o Yes
2. Was the Mac tour sufficient to allow you to start using the computer for the first training session?
   o No o Yes
3. Was the instruction session interesting?
   o very dull o dull o interesting o very interestiong
4. Did you understand the information presented?
   o not at all o fairly well o clearly o very clearly
5. Was the information complete enough for a new employee?
   o not complete o too much information o fairly complete o complete
6. Was the level of information appropriate to new staff members?
   o too hard o too simple o simple o about right
7. How was the pacing if instruction?
   o too fast o much too slow o slow o about right
8. What about the length of the training session?
   o much too long o long o too short o about right
9. Were instructions on the screen easy to understand?
   o confusing o sometimes unclear o fairly clear o understandable
10. Were enough review exercises included?
    o none needed o too few o too many o just enough
11. Were review exercises appropriate?
    o too hard o too easy o just right
12. Did you receive enough feedback on the review exercises?
    o not enough o barely enough o too much o just right
13. Were the test questions appropriate?
    o too hard o too easy o just right
14. Was the glossary function helpful?
    o did not use o too few words o too many words o helpful
15. Were the help screens understandable?
    o did not use o confusing o fairly clear o understandable

COMMENTS:

1. What did you dislike about the training session?

2. What could we do to improve the training session?

Please make any additional comments that you wish about the training session:

Thanks again for your participation.

rev. 7/20/90

Appendix E

Comparative Questionnaire

****

When you have completed all 7 training units, please answer the following questions:

****

1. Please rate each of the modules:

Orientation
o Poor o Average o Above Average o Excellent
Comments:

Library of Congress Classification
o Poor o Average o Above Average o Excellent
Comments:

From Request to Shelf
o Poor o Average o Above Average o Excellent
Comments:

Introduction to Reference
o Poor o Average o Above Average o Excellent
Comments:

Access to Periodicals
o Poor o Average o Above Average o Excellent
Comments:

Resource Sharing
o Poor o Average o Above Average o Excellent
Comments:

Computers in Libraries
o Poor o Average o Above Average o Excellent
Comments:

* Make suggestions for improvements: level of difficulty, amount of information, quantity and type of graphics, sounds, etc.

2. Was there too much overlap in content between the sessions? Explain what information was repeated.

3. Please list any other topics that should be part of this library "basic training" series.

Thanks again for your participation.

rev. 7/20/90

Appendix F

Telephone Survey on CBT Program for Supervisors

Name _____

o Department Head
o Supervisor of non-exempt staff
o Supervisor of SLAs

1. Did you experience any difficulty in scheduling CBT sessions?
   o Yes o Maybe o No

   If **yes**, what were they?

2. Was the preliminary training you received--such as the introductory session and the Mac tour--sufficient?
   o Yes o Maybe o No

   If **no**, what was the problem encountered?

3. Are trainee tracking and record-keeping mechanisms satisfactory as far as you are concerned?
   o Yes o Maybe o No

   If **no**, what is the problem encountered?

4. Is the amount of time used (10-12 hours in 6 months and less for SLAs) to go through the CBT program acceptable to you in terms of your overall staff-training agenda?
   o Yes o Maybe o No

5. Do you think the CBT program will lead to better performance of staff library-wide?
   o Yes o Maybe o No

6. Will the implementation of the CBT program cause you to change any departmental/unit training?
   o Yes o Maybe o No

   If **yes**, what parts?

7. Have you had any negative feedback from your employees who have completed or are going through the CBT program?
   o Yes o Maybe o No

8. Have you had any negative feedback from your supervisors about the CBT program?
   o Yes o Maybe o No

9. Would you like to see additional sessions of CBT created for general staff training?
--That is, sessions that all employees would go through?
o Yes o Maybe o No

If yes, on what topics?

10. Would you like to see additional sessions of CBT created specifically for training staff in your department/unit?
o Yes o Maybe o No

If yes, on what topics?

11. What did you like about the CBT program -- specifically or generally?

12. Was there anything that you disliked?

Telephone Survey on CBT Program for Trainees

Name _____

o Non-exempt staff
o SLAs

1. Did you experience any difficulty in scheduling CBT sessions?
   o Yes o Maybe o No

   If yes, what were they?

2. Was the preliminary training you received--such as the introductory session and the Mac tour--sufficient?
   o Yes o Maybe o No

   If no, what was the problem encountered?

3. Is the amount of time it takes to go through the CBT program acceptable to you as you learn about the Libraries?
   o Yes o Maybe o No

4. Do you think the CBT program will help you to perform better as a member of the Libraries staff?
   o Yes o Maybe o No

5. What did you like about the CBT program -- specifically or generally?

6. Was there anything that you disliked?

Appendix G
Program Comparison for Non-exempt and Student Employees

New Horizons in Library Training:
A Series of Computer-based Training Sessions

Non-exempt Staff	Student Assistants
All new staff participate.	All new SLAs particpate.
Non-exempt staff take all training units beginning with *Orientation* within 2 weeks of employment.	Take *Orientation* within 2 weeks. Recommend *Library of Congress Classification* for all SLAs within 1-2 months.
Take remaining 6 sessions within first 6 months of employment, according to sequence set by the department head.	Department head decides number and sequence of training sessions and time frame. Some sessions may wait until SLA has been on the job several months.
Checklist is used for each new employee	Checklist is used for each new SLA
Menu system is used to guide trainee at Macintosh training station. Trainee data is gathered unobtrusively and made available to Library Personnel Office and supervisors.	Menu system is used to guide trainee at Macintosh training station. Trainee data is gathered unobtrusively and made available to Library Personnel Office and supervisors.
Checklist is returned to Library Personnel Office when training is complete. A letter of recognition is sent to the employee from Dean of Libraries.	Checklist is returned to Library Personnel Office when training is complete. A letter of recognition is sent to the employee from Dean of Libraries.

Appendix H

Sample CBT Checklists

Checklists for two departments illustrate the varying sequence of training sessions for non-exempt staff and the choice of number, sequence, and timing of units for student assistants.

New Horizons in Library Training:
A Series of Computer-Based Training Sessions

Training Checklist
Non-Exempt Staff
Collection Management
Services

Name: _____ Unit: STACKS

(When asked to type your name and department, type them exactly as seen on the line above.)

Supervisor: _____ Date Hired: _____

		Schedule no later than:	Date completed:
1	Orientation, Part 1	week 1-2	_____
2	Orientation, Part 2	week 1-2	_____
3	Library of Congress Classification	month 1	_____
4	From Request to Shelf, Part 1	month 2	_____
5	From Request to Shelf, Part 2	month 2	_____
6	Introduction to Reference Services	month 3	_____
7	Access to Periodicals	month 4	_____
8	Resource Sharing	month 5	_____
9	Computers in Libraries, Part 1	month 6	_____
10	Computers in Libraries, Part 2	month 6	_____
	Program Evaluation (Do this evaluation upon completion of last session.)	month 6	_____

Return this form to the Library Personnel Office when training has been completed.

Supervisor's signature:

_____

For LPO use:

- ☐ Initial notification: _____
- ☐ Follow-up 1: _____
- ☐ Follow-up 2: _____
- ☐ Completed: _____

New Horizons in Library Training: A Series of Computer-Based Training Sessions

Training Checklist
Student Assistants
Collection Management
Services

Name: _____ **Unit:** STACKS

(When asked to type your name and department, type them exactly as seen on the line above.)

Supervisor: _____ **Date Hired:** _____

		Schedule no later than:	Date completed:
1	Orientation for SLAs	week 1	_____
2	Library of Congress Classification	week 2	_____
3	From Request to Shelf, Part 1	month 2	_____
4	From Request to Shelf, Part 2	month 2	_____
5	Access to Periodicals	month 2	_____
	Program Evaluation (Do this evaluation upon completion of last session.)	month 2	_____

Return this form to the Library Personnel Office when training has been completed.

Supervisor's signature:

_____

For LPO use:

- ☐ **Initial notification:** _____
- ☐ **Follow-up 1:** _____
- ☐ **Follow-up 2:** _____
- ☐ **Completed:** _____

New Horizons in Library Training: A Series of Computer-Based Training Sessions

Training Checklist
Non-Exempt Staff
Agriculture-Veterinary
Medicine Library

Name: _____ Unit: AGVET

(When asked to type your name and department, type them exactly as seen on the line above.)

Supervisor: _____ Date Hired: _____

		Schedule no later than:	Date completed:
1	Orientation, Part 1	week 1-2	_____
2	Orientation, Part 2	week 1-2	_____
3	Library of Congress Classification	month 1	_____
4	Introduction to Reference Services	month 2	_____
5	Access to Periodicals	month 3	_____
6	From Request to Shelf, Part 1	month 4	_____
7	From Request to Shelf, Part 2	month 4	_____
8	Computers in Libraries, Part 1	month 5	_____
9	Computers in Libraries, Part 2	month 5	_____
10	Resource Sharing	month 6	_____
	Program Evaluation (Do this evaluation upon completion of last session.)	month 6	_____

Return this form to the Library Personnel Office when training has been completed.

Supervisor's signature:

_____

For LPO use:
- ☐ Initial notification: _____
- ☐ Follow-up 1: _____
- ☐ Follow-up 2: _____
- ☐ Completed: _____

New Horizons in Library Training: A Series of Computer-Based Training Sessions

Training Checklist
Student Assistants
Agriculture-Veterinary
Medicine Library

Name: _____ Unit: AGVET

(When asked to type your name and department, type them exactly as seen on the line above.)

Supervisor: _____ Date Hired: _____

		Schedule no later than:	Date completed:
1	Orientation for SLAs	week 1-2	_____
2	Library of Congress Classification	month 1	_____
3	Introduction to Reference Services	month 1	_____
4	Access to Periodicals	month 2	_____
5	Computers in Libraries, Part 1	month 3	_____
6	Computers in Libraries, Part 2	month 3	_____
	Program Evaluation (Do this evaluation upon completion of last session.)	month 3	_____

Return this form to the Library Personnel Office when training has been completed.

Supervisor's signature:

_____

For LPO use:

- ☐ Initial notification: _____
- ☐ Follow-up 1: _____
- ☐ Follow-up 2: _____
- ☐ Completed: _____

NEW HORIZONS IN LIBRARY TRAINING

Computer-based Training for Library Staff

Self-directed training sessions using HyperCard

Developed at the University Libraries
The University of Tennessee, Knoxville

Project Directors
Pauline S. Bayne
Joe C. Rader

Project Team
William Britten
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Jillian Keally
Martha Rudolph
Steve R. Thomas
Alan Wallace
Judith D. Webster

Project supported in part by the U.S. Department of Education and Apple Computers, Inc.

Technical Information

Runs on Macintosh Plus or higher

Animation speed designed for Macintosh SE or Classic

Hard disk and 1 Mb RAM required

HyperCard 1.2 or higher

Extensive use of sound resources

Available to Other Libraries

This series of computer-based training sessions is available for use in other libraries to train staff. Users may make modifications to adapt the materials to suit individual libraries. If changes are made, appropriate credit to the original authors would be appreciated. Notes on structure and protection levels are given in the stack script of each stack.

How to Obtain

The stacks for these training sessions are free and may be re-distributed in their original form. They are intended for educational and training purposes only and may not be sold commercially.

- Use the Internet to download stacks for each training session to your own computer.

  Internet address: UTKLIB.LIB.UTK.EDU

- Order diskettes from Apple Template Exchange.

  Address: Apple Template Exchange
  Apple Library Users Group
  10381 Bandley Drive, MS. 8-C
  Cupertino, CA 95014
  408/974-2552

BEST COPY AVAILABLE

NEW HORIZONS IN LIBRARY TRAINING

What is it?

An interactive program of computer-based training, New Horizons in Library Training offers seven topical sessions from a central menu. It exploits the graphic, sound, and animation features of HyperCard to stimulate learning.

Who should use it?

It serves as an efficient and effective means of training full-time and student library employees, especially in academic and research libraries.

How might a library change the content for local use?

The content of these training materials is generic so they will apply to operations in many libraries, especially academic libraries. Local information is included as examples of ways to present maps, floorplans, routines, or policies. Usually accessed through buttons (marked "Where at UT?" or "What does UT do?"), such information may be replaced or removed to fit local needs.

What does it cover?

◆ Orientation

This training session serves as an introduction to the University of Tennessee, Knoxville Libraries. It is distributed to serve as an example of computer-based orientation. Coverage includes the mission of a university library, departments and their functions, governance structures, training opportunities, questions frequently asked by new employees, basic benefits, basic policies, and expectations of the work place. A shorter version for student employees is included.

◆ Access to Periodicals

This training unit opens with a discussion of the role and importance of periodical literature in research and learning. It discusses methods of access through the use of indexes and browsing as well as problems of location and formats. It is intended for new staff and student employees having little prior experience with university libraries.

◆ Computers in Libraries

Starting with a discussion of computer components and their use in libraries, this unit then concentrates on integrated online library systems. Instruction is given in generic terms for acquisition, cataloging, online catalog, and circulation subsystems. It is intended for new staff and student employees having little prior experience with computer applications in libraries.

◆ From Request to Shelf

This session presents the processes of selecting, acquiring, cataloging, and marking materials for the library collection. Two levels of instruction are given in parts 3 and 4, depending upon whether trainees work in technical services or other areas. It is intended for new staff and student employees having little prior experience with methods of acquiring library materials.

◆ Introduction to Reference Services

Introducing the services and resources of academic library reference departments, this session includes: question negotiation, fact and finding tools, electronic sources, government documents, and library instruction. It is intended for new staff and student employees having little prior experience with university libraries.

◆ Library of Congress Classification

This session introduces the LC classification system—what it does, why, call number component—and provides practice in ordering LC call numbers. It is structured to offer two levels of training and competency-based progress through the session: (1) an introduction to classification and call numbers, and (2) additional drill for employees whose work includes the arranging of materials in LC call number order.

◆ Resource Sharing

This session introduces the philosophy of library cooperation and covers interlibrary loan, cooperative cataloging, reciprocal agreements, and networking. It is intended for new staff and student employees having little prior experience with this aspect of library service.

University of Tennessee, Knoxville Libraries
Paula T. Kaufman, Dean of Libraries
1015 Volunteer Blvd.
Knoxville, TN 37996-1000

UTK is an EEO/AA/Title IX/Section 504 employer.
EO1-6010-011-91

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Appendix J

The content of this form, rather than its onscreen appearance, is reproduced here. It is available to trainees, accessible from the CBT menu, as the last activity in their CBT training program.

Onscreen Program Evaluation Form

Congratulations! You have successfully completed the Computer-based Training Program for library staff. Please take a moment to answer the following questions. Your evaluation is anonymous, and your candid responses will help us determine how well the sessions are meeting their objectives.

What is your employee category?

o staff o faculty o student

Check all of the sessions which you have completed:

- o Orientation
- o Access to Periodicals
- o Computers in Libraries
- o From Request to Shelf
- o Library of Congress Classification
- o Reference Services
- o Resource Sharing

Please answer the remaining questions using the following rating scale:

1 = poor 2 = fair 3 = good 4 = excellent

1. Quality of initial supervisory instruction about using the Mac and CBT sessions.	o 1	o 2	o 3	o 4
2. Quality of training facilities.	o 1	o 2	o 3	o 4
3. Sequence of training sessions.	o 1	o 2	o 3	o 4
Rate all sessions on:	o 1	o 2	o 3	o 4
4. Usefulness of information	o 1	o 2	o 3	o 4
5. Clarity of information	o 1	o 2	o 3	o 4
6. Pace of instruction	o 1	o 2	o 3	o 4
7. Length of sessions	o 1	o 2	o 3	o 4
8. Overall quality	o 1	o 2	o 3	o 4

9. What problems, if any, did you encounter during the training program? Type your response below.

10. What changes, if any, would you recommend to improve the training program or individual sessions?

11. Other comments? / Other topics to suggest for CBT?

Appendix K

Implementation Information

Throughout the project period, the Dean of Libraries sent a variety of communications to staff of the Libraries, to keep them informed of progress, to solicit involvement with evaluation activities, to promote supervisory training, to announce full implementation for new staff and availability of the program to current staff. These supportive activities set the expectation that CBT is a valid and beneficial training method for the UT, Knoxville Libraries.

Implementation plans made by the CBT team included preparation of informational documents for department heads and other supervisors. Distributed in various demonstrations and training sessions, they included:

1. CBT program and session objectives
2. Comparison of CBT program for non-exempt and student staff
3. CBT survey of department heads
4. Macintosh basics: how to turn the Mac on and off, how to begin the Macintosh tour, how to choose a training session, and how to end a training session.
5. Department/unit CBT resource file:
   a. Supervisor's responsibilities
   b. Training concepts for the CBT introductory session
   c. Department/unit CBT checklists for non-exempt and student staff
   d. Questions and answers for each CBT unit.

Transfer of implementation responsibility from the project team to staff of the Library Personnel Office (LPO) occurred gradually from December 1990 through March 1991. This transfer required training LPO and branch staff in maintenance of the training computers -- to be sure that all files remain available and that the user interface appears to the trainee as designed -- and in weekly data collection from each Macintosh. LPO staff also had to learn to edit the trainee data and to generate reports. Three instructional pieces were prepared to train staff in ongoing implementation activities:

1. Daily check of CBT Macintosh
2. Weekly gathering of TraineeData
3. Producing CBT reports.

These materials are available upon request to the project directors.

A document of general interest for implementation purposes is the list of supervisor's responsibilities. Section B of this list outlines the instructions to be given to all new employees as they are introduced to the CBT program and facilities. It is reproduced here.

Computer-based Training Program
Supervisor's Responsibilities

The individual training program is handled by a new employee's supervisor. The Library Personnel office staff will send a CBT Checklist to the supervisor.

A. Supervisor discusses CBT program with new employee and schedules first session.

B. Session 1: Supervisor introduces the Macintosh and sees that trainee can proceed independently.
   -- Where: Training Room, 245A, in Audiovisual Services or specified branch library location.
   -- How to get training room unlocked. Ask AV staff to unlock the room. If trainee is the last to leave the training room, ask AV staff to relock it.
   -- How to turn machine on.
   -- How to schedule training sessions. Scheduling notebook is kept at the AV Services desk.
   -- Macintosh Tour Part 1: teaches skills in using the mouse.
   -- How to open CBT Menu by double-clicking on the icon.
   -- How to end session by clicking on "Stop button" and "Restart."
   -- How to report problems.

C. Remaining sessions:
   -- Supervisor monitors progress (receives supervisor's reports from the Library Personnel Office (LPO); guides scheduling.
   -- Trainee does sessions independently.

D. Upon completion of individual training program:
   -- Supervisor signs checklist and sends it to LPO.
   -- LPO sends employee a certificate of completion.

Appendix L

Documentation for CBT Stacks and Scripts

The following "front end" stacks are required to use the computer-based training materials as a complete program, with trainee access via a menu: CBT Menu, CBT Opening A, and CBT Opening B, Evaluation, and TraineeData.

CBT Menu

- Userlevel = 1
- Protection set to "browse"

Purpose: allows trainee to choose session and loads variable "session."

CBT Opening A

- Userlevel = 1
- Protection set to "browse"

Contents: title sequence for program; instruction on how to navigate through CBT sessions.

Purpose: Continues to Orientation Pt.1 for choices Orientation Pt.1 (non-exempt staff) or Orientation for SLAs (student assistants).

CBT Opening B

- Userlevel = 1
- Protection set to "browse"

Contents: title sequence for program; choice to see navigation instructions.

Purpose: Continues to other sessions depending on variable "session."

Evaluation

- Userlevel = 1
- Protection set to "browse"

Contents: evaluation form for entire CBT program.

Purpose: to gather information for program improvement.

TraineeData

- Userlevel = 1
- Protection set to "browse"

Purpose: to gather use data unobtrusively as trainees use each CBT session. Data is written in this stack when the "Stop" button is pressed.

Orientation

For non-exempt staff, this session is taken in two sittings,identified on the menu as Orientation Pt.1 and Orientation Pt. 2. Stacks required for this version include: "Orientation Pts. 1-6" and "Glossary-Orientation." Student Assistants take this session in one sitting--less information is given on library governance and policies. Their version uses stacks "Orientation Pts. 1-4, 7-8" and "Glossary-Orientation." Both versions need stacks: "Glossary-Orientation," "CBT Help," and "TraineeData."

Orientation Pt.1
- Userlevel = 2
- Protection set at "typing"

Contents: introduction to role of academic libraries.

Orientation Pt.2
- Userlevel = 2
- Protection set at "typing"

Contents: public service departments, their role and location at UT,Knoxville Libraries.

Orientation Pt.3
- Userlevel = 1
- Protection set at "browse"

Contents: branch libraries, their role and location; first set of review questions.

Orientation Pt. 4
- Userlevel = 2
- Protection set at "typing"

Contents: departments in the Collection Development and Administrative Services Divisions. Review questions.

Orientation Pt.5
- Userlevel = 1
- Protection set at "browse"

Contents: governance.

Orientation Pt.6
- Userlevel = 2
- Protection set at "typing"

Contents: training opportunities, questions of new employees, basic benefits, policies and expectations of the workplace.

Orientation Pt.7 --for SLAs
- Userlevel = 1
- Protection set at "browse"

Contents: abbreviated discussion of governance.

Orientation Pt.8 --for SLAs
- Userlevel = 2
- Protection set at "typing"

Contents: policies and expectations of the workplace.

Computers in Libraries

This session is taken in two sittings, listed on the menu as Computers in Libraries Pt.1 (stacks Computers Pts. 1-2) and Computers in Libraries Pt.2 (stacks Computers Pts. 3-5). Both parts use the stack, "Glossary-Computers." Review questions are distributed throughout the instruction and a test occurs at the end of the material. Two other stacks are required for successful operation: "CBT Help" and "TraineeData."

Computers Pt.1
- Userlevel = 1
- Protection set at "browse"

Contents: Introduction to computer components, vocabulary for peripherals, mainframe, mini-, and microcomputers, concept of interactive online library system.

Computers Pt.2
- Userlevel = 2
- Protection set at "typing"

Contents: library online acquisition system, its uses, and benefits of computerization. Ends with a test for Part 1.

Computers Pt.3
- Userlevel = 1
- Protection set at "browse"

Contents: subsystem used for cataloging and creating the libraries bibliographic database.

Computers Pt.4
- Userlevel = 1
- Protection set at "browse"

Contents: Online catalog for public use, advantages, how it works from the users' viewpoint.

Computers Pt.5
- Userlevel = 2
- Protection set at "typing"

Contents: automated circulation system and its common subsystem, reserve. Ends with a test for Part 2.

From Request to Shelf

This session is taken in two sittings, listed on the menu as From Request to Shelf Pt.1 (stacks Request Pts. 1-2) and From Request to Shelf Pt.2 (stacks From Request Pts. 3-4). Both parts use the stack, "Glossary-From Request." Review questions are distributed throughout the instruction and a test occurs at the end of each session part. Two other stacks are required for successful operation: "CBT Help" and "TraineeData."

From Request Pt.1
- Userlevel = 1
- Protection set at "browse"

Contents: Introduction sets context, why staff should know how collection materials are selected, ordered, and processed.

From Request Pt.2
- Userlevel = 2
- Protections set at "typing"

Contents: Called "Acquisition," section describes types of collection materials, the order process and methods of ordering. Serials ordering and receipt are covered separately. Ends with a test for this part.

From Request Pt.3
- Userlevel = 1
- Protection set at "browse"

Contents: Entitled, "Organization," this stack covers cataloging and physical marking of collection items. Declaration of department by trainees allows branching so that more technical material, such as cataloging standards is included only for employees in acquisitions, cataloging, and serials departments.

From Request Pt.4
- Userlevel = 2
- Protections set at "typing"

Contents: Called "Service," this section explains distribution to departments and branches, the importance of careful shelving, and referral of library users to departments where location and bibliographic assistance is available. Ends with a test for this part.

Library of Congress Classification

All four of the following stacks are needed for the content of this session. There is no glossary. Two other stacks are required for successful operation: "CBT Help" and "TraineeData."

LC Pt.1
- Userlevel = 2
- Protection set at "typing"

Contents: classification theory, call number components, reading class and Cutter numbers. Includes review questions.

Trainees identify their department to branch to a test (LC Pt.2) or to more instruction (LC Pt.3).

LC Pt.2
- Userlevel = 1
- Protection set at "browse"

Contents: Test of comprehension. This test is taken by employees of departments who do not need high level of skill in ordering call numbers. For departments such as Personnel, Automation, Shipping and Receiving, etc.

The session ends for trainees with a score 70% or greater. If trainees score less than 70%, they receive more instruction in LC Pt.3.

LC Pt.3
- Userlevel = 1
- Protection set at "browse"

Contents: Detailed instruction and drill in ordering call numbers. Review questions distributed throughout.

LC Pt.4
- Userlevel = 2
- Protection set at "typing"

Contents: Test for trainees who did not yet have a test; retest for those who did not score well enough on LC Pt.2.

Reference Services

This session requires three contents stacks: "Reference Pts.1-3," and supplementary stacks "CBT Help" and "TraineeData." Review questions are distributed throughout the instruction. Glossary terms are included but not in a separate stack.

Reference Pt.1
- Userlevel = 3
- Protection set at "painting"

Contents: title sequence

Reference Pt.2
- Userlevel = 3
- Protection set at "painting"

Contents: Handling questions and reference sources (finding tools, fact tools, electronic sources).

Reference Pt.3
- Userlevel = 3
- Protection set at "painting"

Contents: conclusion of electronic sources, government documents, and bibliographic instruction.

Access to Periodicals

This session requires two content stacks: "Periodicals Pts.1-2" and supplementary stacks "CBT Help" and "TraineeData." Review questions are distributed throughout the instruction. Glossary terms are included but not in a separate stack.

Periodicals Pt.1
- Userlevel = 3
- Protection set at "painting"

Contents: importance of periodical literature to research and study, access through indexes--explains journal citations in detail.

Periodicals Pt.2
- Userlevel = 3
- Protection set at "painting"

Contents: conclusion of indexes, access by location and format, access through browsing.

Resource Sharing

The session begins and ends the same for all trainees but trainees choose the order of four content sections from a menu. Review questions are distributed throughout the instructions; the glossary feature is not used.

Resource Pt.1
- Userlevel = 3
- Protection set at "painting"

Contents:
Introduction: Why share?

Resource Pt.2
- Userlevel = 3
- Protection set at "painting"

Contents:
From the menu:
Interlibrary Loan
Shared Cataloging
Networking
Reciprocal Agreements
Future of resource sharing

The following credits are accessible from the title screen of each session. They are also included in the stack script of the first stack for each session.

Acknowledgements & Notes on Use

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Developers made use of the following software resources in producing this training series:

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Icon Factory
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P.O. Box 8243
Foster City, CA 94404

MacGallery (HyperCard Format)
Dream Maker Software
4020 Paige Street
Los Angeles, CA 90031

101 Scripts & Buttons for HyperCard
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This series of computer-based training stacks is available for use in other libraries to train library staff. We expect that users will make some modifications to adapt the materials to suit individual libraries. If changes are made, appropriate credit to the original authors would be appreciated.

Stacks in this series include:

Access to Periodicals
Computers in Libraries
From Request to Shelf
Library of Congress Classification
Orientation
Reference Services
Resource Sharing

These training materials may be obtained in two ways:

1) Use the Internet to download stacks for each training session to your own computer.
   Internet address: UTKLIB.LIB.UTK.EDU.
2) Order diskettes from Apple Library Template Exchange:
   Apple Library Users Group
   10381 Bandley Drive
   Cupertino, CA 95014
   408-974-2552.